

**STANDARD
CONSTRUCTION AND
MATERIAL SPECIFICATIONS
FOR
PUBLIC IMPROVEMENTS**

**EAST COVENTRY TOWNSHIP
855 Ellis Woods Road
Pottstown, PA 19465**

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ARRO #5222.35

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THE FOLLOWING SPECIFICATIONS SHALL SUPPLEMENT THE EAST COVENTRY TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE, AND ALL OTHER ORDINANCES AND REGULATIONS OF EAST COVENTRY TOWNSHIP THAT PERTAIN TO THE CONSTRUCTION OF THE TYPES OF IMPROVEMENTS REGULATED BY THESE SPECIFICATIONS.

I. PROCEDURES

A. REFERENCES

The following documents are referenced herein and/or contain information that is relevant to the construction of public improvements in East Coventry Township.

1. East Coventry Township Codified Code of Ordinances
2. East Coventry Township Comprehensive Plan
3. East Coventry Township Technical Specifications for Construction of Sanitary Sewers and Appurtenances
4. PADEP Bureau of Soil and Water Conservation Erosion and Sediment Pollution Control Manual
5. PADOT Specifications, Publication 408
6. PADOT Specifications, Publication 418
7. PADOT Standards for Roadway Construction, Publication 72
8. PADOT Design Manual, Part IV
9. Pennsylvania Code, Title 67, Chapter 203 – Work Zone Traffic Control
10. Pennsylvania Code, Title 67, Chapter 211 – Official Traffic Control Devices
11. Pennsylvania Code, Title 67, Chapter 411 – Access to and Occupancy of Highways by Driveways and Local Roads
12. Pennsylvania Code, Title 67, Chapter 459 – Occupancy of Highways by Utilities

B. NOTIFICATION

The East Coventry Township Board of Supervisors or duly assigned representative shall be given at least seven (7) days advance notice prior to the start of any construction and/or excavation, including removal of topsoil, grubbing of shrubs, bushes, trees and vegetation of any kind, or the performance of any work in a street, right-of-way, utility easement, storm drainage easement or waterway, or within an approved subdivision and/or land development in East Coventry Township.

C. PRECONSTRUCTION CONFERENCE

A preconstruction conference will be required for all subdivision and/or land development projects where an escrow has been developed for improvements cost, and for any other construction or earthmoving activities when deemed necessary by the Township Supervisors or Township Engineer. The developer or his representative and the contractor or contractors who will be performing the work are to attend along with the Township Engineer and Township representatives as well as Chester County Conservation District and any other interested reviewing agencies and/or utilities. The developer shall be responsible for arranging the meeting. A typical preconstruction conference agenda is included in the Exhibits. The developer's engineer shall provide a list, which shall be approved by the Township Engineer, of all required permits prior to the preconstruction conference. The developer shall deliver two (2) sets of full size and two (2) sets of reduced size (11" x 17") final subdivision and/or land development plans, as approved by the Board of Supervisors, to the Township Engineer at the preconstruction conference for the Township Engineer's use during construction.

D. PERMITS AND CERTIFICATES

1. Proof of all required permits, certifications and approvals shall be provided to the Township as well as compliance with the utility notification requirement of Act No. 172/287. Construction may not commence until all permits and approvals are obtained. All permit applications shall be made by the property owner or developer and shall be under the applicant's signature.
2. Any and all applications and/or permit fees shall be paid at the time of application and shall be in the amount as established by resolution of the Board of Supervisors in effect at the time of application.
3. The developer's engineer shall provide a list, which shall be approved by the Township Engineer, of all required permits prior to the preconstruction conference.
4. Developer and/or contractor shall receive written authorization to proceed from the Township Manager prior to the start of construction or any earthmoving activity.
5. A general list of commonly required permits and/or approvals, which is not all-inclusive or limiting, is as follows:

PERMITS OR APPROVALS	AGENCY
Stream Encroachment	PADEP; Army Corps of Engineers; PA Fish Commission
Wetlands and/or Flood Plain Encroachments	PADEP; Army Corps of Engineers
Water Quality	PADEP; Delaware River Basin Commission
State Highway Access and/or Occupancy	PADOT; East Coventry Township
County Street Access and/or Occupancy	Chester County
Township Street Opening	East Coventry Township
Township Street Access (Driveways & Roads)	East Coventry Township
Grading, Soil Erosion & Sediment Control	Chester County Conservation District
Sanitary Sewer Connections and Installations	East Coventry Township
Holding Tank Installation and Maintenance Agreement for Approved Public Sewers	East Coventry Township
Water Connection and/or Installations	Water Utility Company with franchise rights in the subject area
Authorization to Proceed with Construction Activities	East Coventry Township

E. TRAFFIC CONTROL AND SAFETY

1. Work being performed on any and all existing public highways, streets, rights-of-way and easements, shall require a Street Occupancy Permit and posting of a performance bond as may be required from the proper authority, and all required safety protection, including flag persons, signing, barricades, flashing warning devices and other required devices. All safety protection methods and devices and procedures shall be in conformance with Pennsylvania Department of Transportation Publication 203, Work Zone Traffic Control, current edition, and will be furnished and maintained solely by the applicant.
2. All work being performed shall be in compliance with Federal, State and Local safety regulations and shall provide for public safety and the safety of all personnel involved directly or indirectly in the construction of all improvements, including, but not limited to, trench shoring, protective clothing, safety shields and switches on power equipment, and vehicle alarms.

3. There shall be no lane restrictions in Township Streets or State Highways between the hours of 6:00 am and 9:00 am, and between the hours of 3:00 pm and 6:00 pm.

F. **INSPECTIONS**

1. Inspections shall be performed by the Township or its duly authorized representative, unless stated otherwise herein, to verify that proper procedures and methods of installation of all approved structures and approved materials required to be installed are followed. Unless other arrangements are made with the Board of Supervisors, all costs associated with the inspections will be the responsibility of the owner or developer.
2. Inspections shall be required prior to starting construction, during the installation of materials and structures, and upon the completion of all improvements. All improvements shall be installed in accordance with all required approved regulations and specifications.
3. Any and all unsatisfactory work, faulty procedures and methods, and defective materials that have been installed shall be rejected and noted for the record on the inspection standards punchlist and shall be corrected before final acceptance.
4. The replacement of all required improvements shall be in accordance with the controls set by a Professional Land Surveyor registered in the Commonwealth of Pennsylvania, to ensure installation of improvements to proper location, elevation, alignment and profile.
5. Scheduling of required inspections shall be the responsibility of the developer, and/or his contractor. The Township or appropriate agency is to be notified by the developer or contractor at least three (3) business days before commencing any work on any item requiring inspection. Improvements requiring inspection include, but are not limited, to the following:
 - a. **SANITARY SEWER SYSTEM**
Prior to the start of any sanitary sewer improvements work, the developer and/or contractor shall notify the Township as previously described.
 - b. **WATER DISTRIBUTION SYSTEM**
Inspection of all water distribution system improvements is the responsibility of the water utility company serving and with franchise rights in the subject area. Prior to the start of any work on the water line improvements, the developer and/or contractor shall contact the water utility company and shall adhere to the water utility company's policies, procedures and standards.

c. **STORM DRAINAGE SYSTEM**

Storm drainage improvements shall require visual inspection of each section. Prior to the start of any storm drainage improvements, the developer and/or contractor shall notify the Township as previously described. Inspections shall be made prior to backfilling any section, including pipes, inlets, manholes, endwalls, detention and retention basins, culverts and bridges, and all items being installed as part of the storm drainage system. Cast in place concrete structures and bridge structures shall require material samples, in compliance with ASTM C39 standards. Samples must be taken in the presence of the Township's authorized representative.

d. **SUBSOIL SYSTEM**

Inspection to determine type of subsoil structure for compaction compatibility for use as a subgrade.

e. **SUBGRADE STRUCTURE AND UNDERDRAIN PIPE**

Inspection and testing of subgrade type and required density and visual inspection of underdrain pipe installation including all connections to the storm drainage system and service laterals as required.

f. **CONCRETE CURB STRUCTURE**

Inspection of subgrade, general alignment and any forms to be used. String line shall be set prior to any concrete pour to show line and grade, profile and alignment. Material inspection, including the submittal of all certified material delivery slips.

g. **SUBBASE CONCRETE**

Inspection of materials placed as subbase prior to installation of base course, including the submittal of all certified material delivery slips.

h. **BASE COURSE**

Inspection of materials placed as base, including the submittal of all certified material weight slips.

i. **WEARING COURSE STRUCTURE**

Re-inspection of previously installed base course. Inspection of materials placed as wearing surface, including the submittal of all certified material weight slips.

j. **SIDEWALK STRUCTURES**

Inspection of subbase grade and form grade and alignment prior to any pour.

k. RIGHT-OF-WAY PROFILE

Inspection of required finish grade elevation to limits of street right-of-way.

l. SEEDING, SODDING AND EROSION CONTROLS

Inspection as required to assure compliance with approved plans, regulations and general acceptable methods and practice.

m. EMERGENCY ACCESS DRIVES

Inspection of subgrade and any required geotextile overlay, subbase, and porous paving system.

n. DRIVEWAYS

Inspection of base and culvert within street right-of-way line.

G. SUBMITTALS

The developer shall check and verify all field measurements and shall submit with such promptness as to cause no delay in his own work four (4) copies, checked and approved by the developer, of all shop or setting drawings required for the work of the various trades as determined necessary by the Township Engineer. The Township Engineer shall check and approve, with reasonable promptness, such drawings only for compliance with the approved subdivision and/or land development plan requirements and the specifications contained herein. The developer shall make any corrections required by the Township Engineer, file with the Township two (2) copies of the approved submittals and furnish such other copies as may be needed. The Township Engineer's approval of such drawings shall not relieve the developer from responsibility for deviations from the approved subdivision and/or land development plan or specifications contained herein, unless the developer has in writing called the Township's attention to such deviations at the time of submission, and secured the Township Engineer's written approval, nor shall it relieve the developer from responsibility for errors in shop drawings.

H. AS-BUILT PLANS

As-Built Plans are required in accordance with Article VI of the Subdivision and Land Development Ordinance. The list of items to be provided and/or shown on As-Built Plans is included in the Exhibits.

II. SPECIFICATIONS

A. STREETS

1. GENERAL

- a. All materials entering into the construction of streets and the methods of construction and drainage shall be in accordance with the applicable requirements of Pennsylvania Department of Transportation Specifications Publication 408, latest revision thereof, and shall be supplied by vendors approved by the Pennsylvania Department of Transportation for the supply of such materials. Inspection of materials and construction methods shall be as approved and in accordance with the requirements set forth herein as well as Section 601 of the Subdivision and Land Development Ordinance.
- b. Street cross-sections and construction shall be as shown in the Standard Details.
- c. Paving design is based on overall soil conditions in the Township. The Board of Supervisors may require additional paving, base or subbase materials where soil types are inferior, wet or otherwise unsuitable as indicated by the "Soil Survey of Chester and Delaware Counties, Pennsylvania" prepared by the U.S. Soil Conservation Service or where, in the opinion of the Township Engineer, such conditions exist.

2. SUBGRADE

- a. The area within the limits of the proposed road surface shall be shaped to conform to the line, grade and cross-section of the proposed road.
- b. Remove or stabilize all unsuitable subgrade materials.
- c. Wet or swampy areas shall be permanently drained and stabilized, as permitted by the regulatory agency having jurisdiction.
- d. Fills shall be made with suitable materials approved by the Township Engineer and thoroughly compacted for full width in uniform layers of not more than eight (8) inches thick. No more than two (2) feet of fill shall be laid between inspections by the Township Engineer.
- e. The subgrade shall be thoroughly compacted by rolling with a minimum ten-ton three-wheel roller. Equivalent vibratory sheepsfoot or rubber-tired rollers may be used at the discretion of the Township Engineer. Subgrade shall be compacted, tight and dry, to ninety-five (95) percent compaction at optimum moisture and shall not be soft and spongy under the roller. Compaction of

the subgrade shall extend the full width of the cartway, including the width to be occupied by shoulders. Compaction tests meeting ASTM or ASHA standards are required in virgin soil at maximum five hundred (500) foot intervals, unless otherwise approved by the Township Engineer, and at any other specific locations designated by the Township Engineer. The developer and/or contractor shall obtain the services of a third-party certified materials testing firm to perform the tests, and the results shall be signed and sealed by a Professional Engineer registered in the Commonwealth of Pennsylvania and shall be submitted to the Township Engineer. Any location not meeting the compaction requirements shall be removed or re-rolled, and retested, until suitable compaction is achieved.

- f. In fill areas compaction tests meeting ASTM or ASHA standards are required for each three (3) feet of fill thickness. The tests shall be conducted in each eight (8) inch layer at one hundred fifty (150) foot intervals. The developer and/or contractor shall obtain the services of a third-party certified materials testing firm to perform the tests, and the results shall be signed and sealed by a Professional Engineer registered in the Commonwealth of Pennsylvania and shall be submitted to the Township Engineer. All compaction must be ninety-five (95) percent compaction at optimum moisture. Any layer not meeting the compaction requirements shall be removed or re-rolled, and retested, until suitable compaction is achieved.
- g. As an alternate to the compaction and testing requirements described above, the subgrade may be proof-rolled. Proof rolling shall consist of several passes of a smooth drum vibratory compactor that is capable of imparting a total (static plus dynamic) drum force of not less than 550 lb. per linear inch of drum width. It may be necessary to operate the equipment in the static mode if the groundwater level is close to the subgrade elevation. Should any unsuitable areas be detected by the proof rolling that can not be stabilized by additional passes of the equipment, said material shall be undercut and replaced with compacted aggregate fill. The determination of what, if any, areas are unsuitable is at the sole discretion of the Engineer. Any unsuitable areas, as determined by the Engineer, shall be repaired to the satisfaction of the Engineer prior to subbase installation.

3. SUBBASE

- a. This work shall consist of constructing a layer or layers of compacted aggregate on a prepared subgrade area.
- b. The subbase material shall be PADOT No. 2A compacted coarse aggregate.

- c. The construction methods for the subbase shall conform to the requirements as specified in Section 350.3 of PADOT Publication 408, latest edition.
- d. If at the time of construction, local unstable subgrade conditions are encountered, the Township Engineer may require that all areas of unstable subgrade be excavated to sufficient depth, replaced with approved material and compacted to a density and stability equal to or greater than the surrounding subgrade.
- e. The subbase course shall be installed and compacted in accordance with Pennsylvania Department of Transportation specifications and shall extend thirty six (36) inches on all streets beyond the paving line when curbs are not to be installed.

4. PAVING

- a. Paving and base thickness and materials shall be as shown in the Standard Details.
- b. Bituminous base, binder and surface courses shall be laid to the specified thickness, measured after compaction. All bituminous courses shall be laid with a mechanical bituminous paver in accordance with specifications of the Pennsylvania Department of Transportation Specifications, Publication 408, latest edition thereof.
- c. Crown board and straight edge shall be used for checking street construction. Maximum tolerance shall not exceed one-quarter (1/4) inch in the finished surface.
- d. Delivery slips for all material deliveries shall be furnished to the Township Engineer.
- e. Failure to adhere to the above specifications shall give the Board of Supervisors cause to refuse to accept streets for dedication.
- f. Prior to application of additional bituminous courses, existing base courses shall be inspected by the Township representative for defects such as fracture, racking or other signs of base failure, or potential failure. All areas of failure, or potential failure, shall be removed by saw cutting, and replaced, or repaired, to the satisfaction of the Township representative.
- g. Weather Limitations: Bituminous paving shall not be placed between October 31 and April 1, unless otherwise permitted in writing by the Township Engineer. Bituminous paving shall not be placed when surfaces are wet or when the temperature of either the air or the surface on which the paving is to be placed is 40⁰F or lower.

5. GRADING AND SHOULDERS

- a. Roadways shall be graded for the full width of the right of way on each side. Shoulders or berm areas, including planting strips behind curbs, shall be graded with a minimum slope of one-half (1/2) inch per foot and a maximum slope of one (1) inch per foot. Beyond the limits of this grading, banks shall be sloped to prevent erosion but this slope shall not be greater than three (3) horizontal to one (1) vertical with tops of slope in cuts rounded. All unpaved areas between the street line and the curb or shoulders (as the case may be) shall be covered with not less than four (4) inches of topsoil, fertilized and seeded in a manner and with materials approved by the County Agricultural Extension Service.

6. JOINTS

- a. Joints formed by binder or surface course laid adjacent to concrete curbs or other rigid structures shall be sealed with an asphalt cement Class AC-20, twelve inch (12") width as directed by the Township Engineer.

B. STREET EXCAVATION

1. GENERAL

- a. It shall be unlawful for any person to drill any hole or make any opening or excavation in any existing street in the Township without first having obtained a permit for such from the Township.

2. EXECUTION

- a. During the progress of the work, the holder of the permit shall provide and maintain such fences, barriers, "street closed" and warning signs, yellow lights and other danger signals, and watchmen as may be necessary to prevent accidents to the public, pursuant to and in compliance with the standards established by the Pennsylvania Department of Transportation as set forth in Title 67, Pennsylvania Code, Chapter 203, as may be amended or supplemented from time to time.
- b. The amount of trench opened, and also the amount unfilled at the conclusion of the workday, if any, shall at all times be subject to the decision of the Township Engineer.
- c. Before initiation of the work, the permit holder shall notify the Township Road Superintendent to allow for the supervision and inspection of the backfill and restoration.
- d. All openings or excavations of streets, excepting drill holes, shall be cut with a power saw and not with an air jackhammer or similar devices.

- e. Any person opening or excavating any street shall, upon completion of the project and after notification of the Township, immediately and completely backfill such openings or excavations, mechanically tamping the same so as to prevent any settling thereof prior to the expiration of the permit, shall restore the surface to the same condition as it was prior to construction, and shall remove from the site of work all debris, tools and equipment.
- f. All backfilling and restoration shall be done in strict conformance with the Standard Details for backfilling and restoration.
- g. Compaction tests of the street subgrade shall be performed when and where directed by the Township Engineer in accordance with the procedure and requirements previously described for street subgrade.
- h. Where test holes have been drilled, they shall be filled with asphalt and sealed with hot tar.
- i. Permanent restoration. Backfilling of any opening and/or excavations shall be as follows:
 - 1) Before completing the backfilling of any trench, a saw cut shall extend a minimum of twelve inches (12") beyond the trench opening on all sides of the excavation.
 - 2) A bed of 2B clean aggregate (AASHTO No. 57) six inches (6") under the utility conduit, unless specified otherwise elsewhere, extending to the centerline of the conduit.
 - 3) Backfill:
 - a) PADOT 2A (Township Street) or 2RC (State Road) coarse aggregate mechanically tamped in six-inch (6") intervals to restoration depth; or
 - b) Suitable excavated material backfilled by hand or by approved mechanical methods (Township Street only). Backfill shall be excavated material approved by the Engineer and containing no stones larger than four (4) inches in maximum dimension. A maximum of 20% of the backfill volume may be stones if the stones are evenly distributed within the material. Excavated material shall be free of organic material, refuse, and frozen materials subject to limitations specified and shall be compacted in 4" loose lifts with mechanical tamper or 8" loose lifts if vibratory equipment is used.
 - 4) Bituminous concrete base course (BCBC), extending a minimum of twelve inches (12") on each side of the trench, shall be placed on top of the backfill. The contractor shall

be held responsible for any settlement within one (1) year of the final restoration.

- 5) Bituminous wearing course, or binder and wearing courses, properly compacted and graded to the surface of the street, shall be placed on top of the BCBC and sealed at the saw cut with an approved asphalt sealing material.
- j. Temporary restoration. During winter construction periods, the trench shall be backfilled as in the first three (3) items of the specifications for permanent restoration above. The final step shall be temporary application of bituminous stockpile mix to bring the trench to street grade. Inspection shall be made periodically to maintain the trench in condition satisfactory to the Township. On or before May 31st following the date the street cut was first made, the permittee shall permanently restore the cut as in paragraphs h(4) and h(5) above.
- k. Where street openings or excavations are done on a newly constructed street or a street repaved within three (3) years prior to the date of issuance of said permit, the street shall be resurfaced with paving materials prescribed by the Township as follows:
 - 1) Fifteen (15) feet on either side of the opening for lateral and angled street openings.
 - 2) Entire length of street opening plus fifteen (15) feet on each side and each end of street opening for longitudinal street openings.

C. DRIVEWAY OPENINGS

1. GENERAL

- a. All residential, commercial and industrial driveways opening onto a highway, street, road or avenue shall require the issuance of a driveway permit before construction.
- b. Prior to construction of any residential, commercial or industrial driveway that opens onto a Township highway, street, road or avenue, a driveway sketch and driveway profile plan, prepared in accordance with the Standard Details and Township Driveway Ordinance, shall be submitted to East Coventry Township for review and approval.
- c. Residential driveways shall be located, designed and constructed in accordance with the Township Driveway Ordinance.

2. COMMERCIAL AND INDUSTRIAL DRIVEWAYS

- a. Commercial and industrial driveways shall meet the requirements of the Township Driveways Ordinance, except as modified below:
 - 1) Commercial and industrial driveways shall be designed to meet the requirements set forth in Chapter 441 of Title 67 of the Pennsylvania Code.
 - 2) Commercial and industrial driveways shall be paved with 1.5 inches of ID-2 wearing course, 4 ½ inches of bituminous concrete base course and 6 inches of PADOT No. 2A compacted coarse aggregate subbase.
 - 3) Commercial and industrial driveways shall be provided with a drainage pipe, as opposed to a swale, in accordance with the Standard Details.
 - 4) Commercial and industrial driveways shall be provided with curb returns of appropriate radius in accordance with PADOT Standards, rather than depressed curbs.
 - 5) Commercial and industrial driveways shall be constructed with a two (2) percent minimum crown or cross slope.
 - 6) Commercial and industrial driveways shall have minimum radii of 60 feet.

D. CURBS AND SIDEWALKS

1. GENERAL

- a. The construction of any new curbs or sidewalks and the repairing of any existing curbs or sidewalks in the Township, shall be in conformance with the following specifications, and as shown in the Standard Details.
- b. The grade to which every curb, gutter, or sidewalk shall be hereafter laid, constructed or repaired, other than that established in an approved subdivision and land development plan, shall be that fixed and designated by the Township Engineer. When required by the Township Engineer, grade cut sheets for the curb or sidewalk shall be provided for review prior to the installation of the structure.
- c. All new street trees shall be planted on the residence side of the sidewalk at a distance of at least two feet (2') outside of the ultimate right-of-way, unless specified otherwise elsewhere, in which case the greatest distance shall apply.
- d. No open gutters for conducting rainwater or drainage of any kind will be permitted to run over the top of curbs or sidewalks. All underground rain conductors shall be of pipe material such as cast

iron, wrought iron, or approved plastics, and shall be connected directly to a storm sewer pipe.

- e. No persons or person, firm or corporation shall construct or repair any curb, sidewalk, or gutters within the public right-of-way without first applying for and obtaining a permit for the same from the Township. No permit will be required for new curbing, gutters or sidewalk to be constructed in an approved subdivision and/or land development, which is to be installed by the developer.

2. CURBS

- a. Curbs shall be installed along both sides of all proposed streets and shall be the vertical type. Curbs shall always be required where sidewalks are required.
- b. Grass swales may be permitted, in lieu of curbs, within rights-of-way of developments of less than 10 lots, subject to the approval of the Township; however, all subdivisions or land developments with lots of one (1) acre or less shall provide curbs.
- c. Curbs shall be provided in all new parking areas located within a land development.
- d. All curbs shall be constructed of monolithic concrete. Such concrete shall develop a compressive strength of 3,500 pounds per square inch (psi) in twenty-eight (28) days. Certification of the concrete mix shall be provided to the Township.
- e. Curbs shall have clean cut joints, a minimum of two (2) inches deep, every ten (10) linear feet and expansion joints every sixty (60) linear feet or less, at structures, and at the end of each day's work. Expansion joints shall be one half (1/2) inch in width with pre-molded expansion joint filler. Expansion joint material shall also be placed between any curb and concrete driveway apron.
- f. All curbs shall have a depth of not less than eighteen (18) inches and shall be eight (8) inches in thickness at the base and seven (7) inches in thickness at the top. Curbs shall be constructed with an eight (8) inch reveal and shall rest on a compacted bed of AASHTO No. 57 (PADOT 2B) crushed stone of a depth of not less than four (4) inches.
- g. When a curved curb joins with a tangent curb, at curb returns, on sharp curves, where a curb is jointed to an inlet, and elsewhere as directed by the Township, there shall be embedded in the concrete two (2) #4 reinforcing bars twenty-four (24) inches long. These bars shall extend twelve (12) inches into the curb on each side of the joint. The portion of the bar extending into the tangent curb shall be rendered bondless by a coating of approved material and enclosed in part in approved tubes or caps which will provide a one-half (1/2) inch minimum positive clearance pocket. The top

surface of the curb shall be finished true to line and grade in a smooth, neat and even manner and the edge of the faces and back shall be rounded to a radius of one (1) inch.

- h. The depressed curb at driveways shall be no higher than one and one-half (1½) inches above the street surface. The length of this depressed curb shall not exceed thirty-five (35) feet without a safety island that shall not be less than fifteen (15) feet in length. Pipes or grates or other constructions shall not be placed in the gutter to form a driveway ramp.
- i. Where it is necessary to replace existing vertical curbs with depressed curbing, two (2) ten (10) foot long sections of existing curb shall be removed down to the sub-grade without disturbing the adjacent cartway paving. Any portions of the cartway disturbed during curbing removal or installation shall be repaired to new condition.
- j. Any depressed curb sections that are unused when a development or phase of a development is completed, shall be completely removed and replaced with full section upright curbing to line and grade of adjacent curbing. Forming and pouring vertical curbing on top of an existing curb depression will not be permitted.
- k. Curb cut ramps, for use by the handicapped, shall be provided at all street intersections, and shall be installed in accordance with the Standard Details.
- l. All joints between curbs and bituminous pavement shall be sealed with AC-20, or equivalent in the opinion of the Township Engineer.

3. SIDEWALKS

- a. All residential developments in excess of ten (10) lots shall have either a sidewalk or pathway system acceptable to the Township. All residential developments with lots of one (1) acre or less shall provide sidewalks on both sides of new streets. Curbs shall always be required where sidewalks are required. The materials, location and construction of all proposed pathways shall be of approved by the Township.
- b. Paved concrete sidewalks shall be provided on all collector streets within a subdivision; on all streets within one thousand (1,000) feet of and leading to a school; on all commercial streets; and at such other locations deemed by the Board to be necessary for the safety and convenience of the public.
- c. Concrete sidewalks may be required on both sides of new streets in residential subdivisions and/or land developments. Sidewalks may be required on only one (1) side of the street in subdivisions and/or

land developments if there are residential lots on only one (1) side of the street.

- d. Concrete sidewalks shall be provided along all new streets and parking areas located in non-residential subdivisions and/or land developments unless it can be shown, to the satisfaction of the Board of Supervisors, that pedestrian traffic does not follow or mix with vehicular traffic; in which case, both sidewalks and curbs may not be required.
- e. Concrete sidewalks, in all new developments or street construction, shall be located entirely within the street right-of-way, and shall be located a minimum of three (3) feet seven (7) inches from the curb line, measured from the curb line to the street side edge of the sidewalk. A grass planting-strip shall be provided between the curb and sidewalk. All required street trees shall be installed on the residence side of the sidewalk at a distance of at least two (2) feet outside of the ultimate right-of-way, unless otherwise specified elsewhere, in which case the greater distance shall apply. In developed areas of the Township, the existing conditions shall be considered in the application of these location requirements. Curb cut ramps, for use by the handicapped, shall be provided at all street intersections, and shall be in accordance with the Standard Details.
- f. All sidewalks shall be constructed of monolithic concrete. Said concrete shall develop a compressive strength of 3,500 pounds per square inch (psi) in twenty-eight (28) days. Certification of the concrete mix shall be provided to the Township.
- g. The paved width of sidewalks shall be a minimum of five (5) feet in all new developments or street construction. The width of a sidewalk shall be increased to a minimum of eight (8) feet when it is in combination with a bike path. In developed areas of the Township, the existing conditions shall be considered in the application of these requirements.
- h. Where sidewalks abut a building, wall or other permanent structure, a pre-molded expansion joint filler, one-half (1/2) inch in thickness shall be placed between the building, wall or other permanent structure and the sidewalk for the full length of such building, wall or other permanent structure.
- i. Sidewalks shall have clean-cut joints, a minimum of one (1) inch deep, every five (5) linear feet, and expansion joints every thirty (30) linear feet or less, at structures, and at the end of each day's work. Expansion joints shall be one half (1/2) inch wide with pre-molded expansion joint filler. All sidewalks shall have a broom finish.

- j. Sidewalks shall not be less than four (4) inches in thickness and shall be placed on a minimum four (4) inch compacted base of AASHTO No. 57 (PADOT 2B) crushed stone. Where driveways cross sidewalks, sidewalks shall be a minimum of six (6) inches thick and shall include 6" x 6" x 10 gauge welded wire fabric (WWF) and shall be placed on a minimum four (4) inch compacted base of AASHTO No. 57 (PADOT 2B) crushed stone.
- k. Finished sidewalks shall have a cross slope of one eighth of an inch (1/8") vertical per foot horizontal, sloping downward toward the street. Finished sidewalks shall also have a grade from the inner edge of the sidewalk to the outer edge of the paved shoulder or curb of one eighth of an inch (1/8") vertical per foot horizontal.
- l. At driveway entrances, the apron between sidewalk and paved shoulders shall be bituminous, with the bituminous apron cross-section conforming to the requirements of the Township's Driveway Ordinance. A concrete apron may be utilized in lieu of a bituminous apron if approved by the Township Engineer. The apron between sidewalk and curb shall be concrete. Concrete strength for a concrete apron shall be as specified previously for curbs and sidewalks. Concrete aprons shall be 6" thick and shall include 6"x6"x10 gauge WWF, and shall rest on a compacted bed of four (4) inch AASHTO No. 57 (PADOT 2B) crushed stone. Premolded expansion joints (1/2") shall be provided between concrete aprons and sidewalks, and between concrete aprons and curbs.
- m. All joints between sidewalks and bituminous pavement shall be sealed with AC-20, or equivalent in the opinion of the Township Engineer.

E. BIKE PATHS, BIKE LANES, BICYCLE ROUTES AND MULTI-PURPOSE PATHS

1. GENERAL

- a. Curb cut ramps, the same width as the path, shall be installed to permit the crossing of intersecting streets. Curb cut ramps shall be constructed as shown in the Standard Details.
- b. The vertical clearance from the path surface to overhead obstruction shall be not less than 10 feet.
- c. The path shall be 6' wide and constructed of a 4-inch AASHTO No. 57 (PADOT 2B) aggregate base with a 2-inch ID-2 binder course and a 1-inch ID-2 wearing course, unless combined with a concrete sidewalk. At the discretion of the Board of Supervisors, the path may be constructed of choked stone with compaction meeting 90% modified AASHTO.

- d. All paths shall be constructed in such a manner to insure adequate and proper drainage and to prevent the path from being inundated by surface drainage.
- e. Unless specified otherwise, all materials and construction procedures shall be in accordance with PADOT Publication 408, latest edition.

F. STORM DRAINAGE IMPROVEMENTS

1. GENERAL

- a. Storm drainage facilities shall be designed and constructed in accordance with the Township's Stormwater Management Ordinance. The intent of these specifications is to supplement the Stormwater Management Ordinance; however, if there is a conflict between the requirements of the Stormwater Management Ordinance and these specifications, the requirements of the Stormwater Management Ordinance shall prevail.

2. MATERIALS

- a. Inlet boxes shall conform to PADOT Standard Drawings and Publication 408, latest edition.
- b. Inlet frames and grates shall conform to PADOT Standard Drawings and Publication 408, latest edition. Bicycle safe grates shall be installed where directed by the Engineer.
- c. Storm manholes shall conform to PADOT Standard drawings and Publication 408, latest edition. Manhole covers shall have the word "Storm" cast in 2" high letters on the top of the cover.
- d. All miscellaneous storm drainage appurtenances, such as head walls, endwalls and energy flow dissipators, shall be in accordance with PADOT Publication 408, latest edition and the PADOT Standard Drawings.
- e. Trench restoration for storm sewers shall be performed in accordance with the Standard Details.

3. EXECUTION

- a. When there is a change in pipe size in an inlet or manhole, the elevation of the top of pipes shall be the same or the smaller pipe higher. A minimum drop of 2 inches shall be provided between the inlet pipe invert elevation and the outlet pipe invert elevation.
- b. At street intersections, inlets shall be placed in the tangent and not in the curved portion of the curbing.
- c. Inlets or manholes shall be placed at all changes in vertical or horizontal direction of pipe.
- d. Bridge

- 1) A bridge shall be considered an enclosed water carrying structure of one or more cells having a combined span of 8 feet or greater.
- 2) All bridge designs shall be in accordance with PADOT Design Manual, Part IV (latest revision) and shall be submitted to the Township Engineer for approval of materials, structural design, compliance to AASHTO HS-25 loading, flow design capacity and calculated life cycle of proposed structures. All bridges shall have approach guide rail in accordance with PADOT.

G. STORMWATER BASIN IMPROVEMENTS

1. GENERAL

- a. Stormwater detention and retention basins shall be designed and constructed in accordance with the Township's Stormwater Management Ordinance. The intent of these specifications is to supplement the Stormwater Management Ordinance; however, if there is a conflict between the requirements of the Stormwater Management Ordinance and these specifications, the requirements of the Stormwater Management Ordinance shall prevail.

2. MATERIALS

- a. Pipe-reinforced concrete, rubber gasketed, shall conform to AASHTO M170, M198 and M207.
- b. Poured-in-Place Outlet Structure – Reinforced concrete, minimum 4,000 psi compressive strength in accordance with PADOT Publication 408, latest edition.
- c. Precast Outlet Structure – Reinforced concrete minimum 4,000-psi compressive strength in twenty-eight (28) days in accordance with PADOT Publication 408, latest edition. Submit design for Township review and approval.
- d. Precast Reinforced Concrete Inlet Box Sections in accordance with AASHTO M259, PADOT Publication 408, latest edition and PADOT Standard Drawings.
- e. Orifice Plates – stainless steel, type 304, with stainless steel mounting hardware. Use ¼ inch thick up to 24 inch span and 3/8 inch thick over 24 inch spans.
- f. Headwalls/Endwalls- Reinforced concrete, minimum 4,000 psi. Compressive strength in accordance with PADOT Publication 408, latest edition.
- g. Anti-Seep Collars – Reinforced concrete, minimum 4,000-psi compressive strength in twenty-eight (28) days.

- h. Concrete Pipe End Sections – Reinforced concrete in accordance with PADOT Publication 408, latest edition. Concrete pipe end sections shall be permitted only where approved by the Township Engineer.
- i. Steel Grates – In accordance with PADOT Publication 408, latest edition.

3. EXECUTION

- a. Basins shall be installed prior to any earth moving or land disturbances that they will service. The phasing of their construction shall be as noted in the soil erosion and sedimentation pollution control narrative on the soil erosion and sedimentation pollution control plan approved by Chester County Conservation District.
- b. Whenever a basin will be located in an area underlined by limestone, a geological evaluation of the proposed location will be conducted to determine susceptibility to sinkhole formations. The design of all facilities over limestone formations shall include measures to prevent ground water contamination and, where necessary, sinkhole formation. Soils used for the construction of basins shall have low-erodibility factors (“K” factors) with values between 0.17 and 0.49.
- c. The maximum slope of the earthen detention embankments shall be four horizontal to one vertical (4:1). The top and/or toe of any slope shall be located a minimum of five (5) feet from any property line. Whenever possible, the side slopes and basin shape shall conform to the natural topography.
- d. The minimum top width of the detention basin berm shall be 10 feet. A cutoff trench (key-way) of impervious material shall be provided under all embankments that require fill material. The cutoff trench shall be a minimum of 8 feet wide, 2 feet deep and have side slopes of one to one.
- e. In order to insure proper drainage on the floor of the basin, a minimum grade of 2% shall be maintained for areas of sheet flow. For channel flow, a minimum grade of 1% shall be maintained. Under certain circumstances, such as continuous seasonal flow, the Township may require a low flow channel be constructed.
- f. All basin embankments shall be placed in maximum of 8 inch lifts, compacted to a minimum of 95% of the maximum dry density, as established by ASTM D-1557, PTM No. 112 or PTM No. 402. Prior to proceeding to the next lift, the compaction shall be checked by a soils engineer. The developer and/or contractor shall obtain the services of a third-party certified materials testing firm to perform the tests on the leading and the trailing edge of the berm

along with the top of the berm. All test results shall be signed and sealed by a Professional Engineer registered in the Commonwealth of Pennsylvania and shall be furnished to the Township Engineer for review and approval. Any location not meeting the compaction requirements shall be re-compacted and retested until suitable compaction is achieved.

- g. Whenever possible, the emergency spillway for basins shall be constructed on undisturbed ground. Emergency spillways shall be constructed of reinforced concrete checker blocks or other permanent material approved by the Township Engineer. All emergency spillways shall be constructed so that the basin berm is protected against erosion. The minimum capacity of all emergency spillways shall be the peak flow rate from the 100-year design storm after development. The construction material of the emergency spillway shall extend along the upstream and downstream berm embankment slopes. The upstream edge of the emergency spillway shall, at a minimum, extend to the toe of the berm embankment. The emergency spillway shall not discharge over earthen fill and/or easily erodible material.
- h. The minimum freeboard for flow through the emergency spillway shall be 1 foot. Freeboard is the difference between the design water elevation in the spillway at the 100-year design storm peak flow rate and the top of berm elevation.
- i. Anti-seep collars shall be installed around the outlet pipe barrel within the normal saturation zone of the basin berms. The anti-seep collars and their connections to the pipe barrel shall be watertight. The anti-seep collars shall extend a minimum of 2 feet beyond the outside of the principal pipe barrel. The maximum spacing between collars shall be 14 times the minimum projection of the collar measured perpendicular to the pipe. A minimum of two anti-seep collars shall be installed on each outlet pipe.

H. SANITARY SEWERS

1. MATERIALS AND CONSTRUCTION

- a. Sanitary sewers and appurtenances shall be designed and constructed in accordance with the Township's "Technical Specifications for Construction of Sanitary Sewers and Appurtenances" (Technical Specifications), latest revision.

2. DEDICATION

- a. Sanitary sewer gravity mains, force mains, and/or low-pressure force mains shall not be offered for dedication until:
 - 1) Written acceptance of the sewer mains has been obtained from the Township Engineer, with acceptable television inspection of gravity mains as determined by the Township

Engineer, being performed no more than sixty (60) calendar days prior to written offer of dedication.

- a) If more than one (1) year elapses between the air testing of gravity sewer mains or vacuum testing of manholes and the subsequent televising of the gravity sewer mains and associated manholes, the Township Engineer may require the gravity sewer mains to be re-air tested and manholes to be re-vacuum tested prior to televising.
- 2) The road, right-of-way, and/or easement in which the main is located:
 - a) Has previously been accepted for dedication by the Board of Supervisors; or
 - b) Is being offered for dedication concurrently with the sewer main.
- b. In addition to the requirements set forth in Article VI of the Subdivision and Land Development Ordinance, sanitary sewer pumping stations shall not be offered for dedication until:
 - 1) All odor control sampling, testing and mitigation required by the Technical Specifications has been successfully completed.
 - 2) Written acceptance of the pumping station has been obtained from the Township Engineer.
 - 3) All sanitary sewer gravity mains, force mains, and/or low-pressure force mains that convey sewage flow to and from the pumping station have been accepted for dedication by the Board of Supervisors, unless the pumping station is being offered for dedication concurrently with the sewer main(s).

I. WATER DISTRIBUTION SYSTEM

1. WATER MAINS

- a. Water distribution mains shall be a minimum of 8" (nominal) in diameter.

2. FIRE HYDRANTS AND APPURTENANCES

- a. General: Fire hydrants and appurtenances shall be constructed in accordance with the Standard Details.
- b. Fire Hydrants shall be cast iron body, fully bronze mounted, suitable for a working pressure of 200 psi, and shall conform to AWWA Standard C502, latest revision. Hydrants shall be constructed in a manner permitting withdrawal of internal working

parts without disturbing the barrel or casing. Valve, when shut, shall be reasonably tight when upper portion of barrel is broken off. Valve opening shall be 5-1/4 inch diameter. Hydrant shall be provided with two 2 1/2" hose nozzles and one 4 1/2" pumper nozzle. Each hydrant shall be shop tested to hydrostatic pressure of 400 psi with valve in both open and closed positions.

- 1) The main valve shall open left with the direction of opening cast on head of hydrant. Operating nut shall be a pentagon with National Standard threads. The hydrant shall be currently dated.
- 2) Hydrants shall be enameled above ground with fire hydrant or fire protection red, with the minimum dry film thickness as recommended by the hydrant manufacturer.
- 3) Acceptable Manufacturers: Hydrants shall be Mueller Modern Centurion Catalog No. A-442, or approved equal.

c. Valve Boxes: For valves 2-inches and larger, provide Buffalo Style adjustable roadway type constructed of cast iron with a shaft provided with screw type or sliding type extension pieces and either round or oval detachable base. Valve boxes shall have a 5-1/4 inch shaft for 2-thru 3-inch valves and a 7-inch shaft for valves larger than 3-inch. Box shall have a plug lid fitting into a recessed seat. The lid shall have the word "WATER" cast on the top surface. All parts of the box shall be of gray iron, free from cold shuts and blow holes and shall be painted with black bituminous paint. Valve boxes shall be set at or above the surface of the adjoining ground or roadway and shall be provided for all buried valves. Valve box shall have an adjustable range up to 6-inches above grade.

d. Gate Valves:

- 1) Provide valves of non-rising stem type when installed underground.
- 2) Valve stuffing box of such design that valve can be packed under pressure when in fully open position.
- 3) Valves:
 - a) Iron body, bronze mounted with resilient-seated wedge conforming to AWWA C509.
 - b) Resilient seat of Styrene Butadiene SBR or Urethane Rubber bonded to cast iron wedge.
 - c) Stem seals of "O" ring type.
 - d) Valves equipped with 2-inch square operating nut and open counter-clockwise.

- e) Exterior to be asphalt varnish or epoxy coated; interior ferrous metal parts to be epoxy coated, AWWA C550.
 - 4) Acceptable Manufacturers:
 - a) Clow Corporation
 - b) Kennedy Valve
 - c) Mueller
 - d) Or Equal.
- e. Pole Marker
 - 1) A pole marker shall be provided on each hydrant.
 - 2) Pole marker shall be 5' reinforced fiberglass, red with reflective white bands, heavy-duty spring and integral mounting bracket.
 - 3) Pole marker shall be USA BlueBook Stock No. 22516, or approved equal.

J. SOIL EROSION AND SEDIMENTATION POLLUTION CONTROL

1. REQUIREMENTS OF REGULATORY AGENCIES

- a. Soil Erosion and Sedimentation Pollution Control Plan:
 - 1) Conduct soil erosion and sedimentation pollution control work in accordance with rules, regulations and requirements adopted by the Pennsylvania Department of Environmental Protection (PADEP) and the Chester County Conservation District.
 - 2) The applicant shall inform the Township as to whether or not a Post-Construction Stormwater Plan (PCSP) is required by Chester County Conservation District as part of an NPDES Phase II stormwater permit for construction. If a PCSP is required and the applicant identifies a conflict between the requirements of the NPDES Phase II permit and the Township Stormwater Management Ordinance, the applicant shall cite the conflict and request a waiver of that particular Stormwater Management Ordinance requirement.
- b. Fines and related costs resulting from failure to provide adequate protection against soil erosion and sedimentation pollution control are the obligation of the Contractor.
- c. The soil erosion and sedimentation pollution control measures employed will be subject to approval and inspection by the Pennsylvania Department of Environmental Protection and/or Chester County Conservation District.

2. EXECUTION

- a. Erosion Control Facilities shall be installed and maintained in accordance with the plan approved by Chester County Conservation District.
- b. A minimum of (1) one copy of the soil erosion and sedimentation pollution control plan, as approved by Chester County Conservation District, shall be kept at the project site at all times.

K. GEOTEXTILES

1. MATERIALS

- a. Geotextile Materials shall be used for but not limited to the following uses:
 - 1) Class 1 – Subsurface Drainage
 - 2) Class 2 – Erosion Control
 - 3) Class 3 – Sedimentation Control
 - 4) Class 4 – Layer Separation

2. EXECUTION

- a. During any project review phase, construction phase, or inspection phase, the Township and/or the Township Engineer may require the use of Geotextile fabrics for any of the above noted Classes.
- b. Geotextile fabric placement, securing pin spacing and Geotextile physical property requirements shall meet the standards of PADOT 408, latest revision, Sections 212 and 735.

L. SIGNS AND MARKINGS

1. STREET SIGNS

- a. Unless specified otherwise, all materials, sign dimensions, lettering and installation shall meet the requirements of Pennsylvania Code, Title 67, Chapter 211.
- b. Signs shall be reflectorized with a white legend on a green background.
- c. Street sign post shall be hot dipped galvanized steel or aluminum tubing, twelve foot (12') one piece section, 2-3/8" O.D., minimum 2 lbs. per foot.
- d. All fittings shall be aluminum and/or stainless steel.
- e. Each post shall have a minimum of two signs, naming each street.
- f. Where new streets are constructed, street signs shall be installed immediately after installation of the road binder course or prior to issuance of the first new home occupancy permit, whichever occurs first.

2. END OF STREET PERMANENT BARRICADE
 - a. Barricade, if required, shall meet PADOT standards.
3. END OF LANE MARKINGS
 - a. Right clearance markers, PADOT W16-2-2R, and painted line striping shall be installed at all widened sections of roadways where the widened portion of the lane ends, and shall be as shown in the Standard Details.
 - b. The markers shall be reflectorized white and red stripes. The bottom of the markers shall be at least 18 inches above the pavement and shall be mounted on steel channel post with breakaway mount. Line striping shall be as shown in the Standard Details.
4. SHOULDER MARKINGS
 - a. At all streets and widened sections of road where curb is not required, but paved shoulders are to be constructed, the cartway shall be delineated from the shoulder by the painting of a four inch (4") wide white line.

M. STREET LIGHTS

1. GENERAL
 - a. The developer shall have street lights installed in accordance with the methods for street light installation approved by the Board of Supervisors. Street lights and poles shall be in accordance with the manufacturer's standard details as approved by the Board of Supervisors.
 - b. The location of street lights shall be in accordance with the approved subdivision and/or land development plan.
 - c. All street lights shall be served by underground conduit.
 - d. Provisions shall be made for energizing street lights after 50 percent or more of the dwellings or nonresidential floor area in a given subdivision and/or land development or section of a subdivision and/or land development has been occupied.
 - e. The developer shall be responsible for all charges or rates of the street lights until such time that the streets are accepted for dedication by the Board of Supervisors.
2. MATERIALS
 - a. All materials shall conform to the requirements established by the local power utility company. The Township may not accept dedication of any street light system that does not meet the standards of the local power utility company.

- b. All street lights along new residential streets shall have post top mount fixtures in accordance with the manufacturer's standard details as approved by the Board of Supervisors.

3. INSTALLATION

- a. The developer shall be responsible for all material and labor costs associated with the street light installation including all applicable taxes.
- b. The developer shall be responsible for the digging and backfilling of the wire trenches and for the complete restoration of disturbed areas. Developer shall also be responsible for the construction of the concrete anchor base for street light posts, if required.
- c. The developer/contractor shall coordinate the timing of the street light installation with the local power utility company.

N. MAILBOXES

1. MATERIALS AND CONSTRUCTION

- a. All materials and construction shall meet the requirements of the U.S. Postal Service.

2. EXECUTION

- a. All mailbox locations shall be subject to approval by the Post Office and the Township. Residents should contact the Township and the Post Office serving their area prior to the installation of any new mailbox.
- b. Unless directed otherwise by the Post Office, mailboxes shall be installed as follows:
 - 1) The bottom of the box shall be 42" to 45" above the road or paved shoulder elevation adjacent to the box.
 - 2) The front face of the box shall be 2" to 3" behind the face of curb or behind the edge of paved shoulder. No portion of the mailbox or supporting post should overhang the road or paved shoulder.
 - 3) If possible, the mailbox should be located to the left of the driveway, facing the house from the road.

O. EMERGENCY ACCESS DRIVES

1. GENERAL

- a. If required by the Board of Supervisors, emergency access drives shall be designed and constructed as shown in the Standard Details.

2. MATERIALS AND CONSTRUCTION

- a. Emergency access drive shall contain a porous paving system as shown in the Standard Details. Porous paving system shall be Grasspave² Porous Paving System for Firelanes as manufactured by Invisible Structures, Inc., or approved equal.
- b. Porous paving system shall be installed in accordance with the manufacturer's requirements and recommendations.

EXHIBITS



EXHIBIT A

Preconstruction Conference Agenda

PRECONSTRUCTION CONFERENCE AGENDA

PROJECT NAME: _____

DEVELOPER NAME: _____

Conference Date: _____

1. Introduction
2. Date of approved subdivision and/or land development plan
3. Contact Information of Key Personnel
4. Chester County Conservation District Agenda Discussion
5. Communications
 - a. All correspondence to be submitted to attention of Township Manager
 - b. Technical questions and inspection notifications may be made directly to Township Engineer's office
6. Submittals
7. Required permits, certifications and approvals
 - a. Status of list furnished by developer's engineer and approved by Township Engineer
 - b. All required permits, certifications and approvals must be secured before Township releases written authorization to proceed with construction activities
8. Tentative work schedule
 - a. Construction start date
 - b. Anticipated completion date
 - c. Anticipated daily hours of operation
9. Construction Requirements
 - a. General – refer to Standard Construction and Material Specifications for Public Improvements, latest revision
 - 1) Inspection requirements
 - a) Items requiring inspection
 - b) Notification requirement – 3 business days minimum
 - 2) Materials testing requirements
 - b. Public Sanitary Sewer – refer to Technical Specifications for Construction of Sanitary Sewers and Appurtenances, latest revision
 - c. Driveway grades and locations

- d. Project-specific construction requirements

10. Construction Escrow - Request and Release Procedure

- a. Proper request submittal
 - 1) Request to be submitted to attention of Township Manager
 - 2) All requests to be numbered sequentially
 - 3) All requests to utilize format established in approved Improvements Cost Estimate
 - 4) All requests to include “current” and “to date” quantities
- b. Township authorizes Engineer, at a regularly scheduled public meeting, to perform inspection relative to escrow release request
- c. Engineer performs inspection and makes recommendation to the Township
- d. Township releases appropriate escrow amount at a regularly scheduled public meeting

11. Final Inspection and Final Release

- a. As-built plan requirements
- b. Legal descriptions for rights-of-way and/or easements to be dedicated to the Township
- c. Inspection of completed work
- d. Punchlist of items to be completed
- e. Final escrow release after punchlist items and all other required items are successfully addressed by developer

EXHIBIT B

As-Built Plan Requirements

AS-BUILT PLAN REQUIREMENTS

1. The developer shall submit As-Built Plans in accordance with Article VI of the Subdivision and Land Development Ordinance.
2. The following is a list of items that shall be provided and/or shown on the As-Built Plans:
 - a. Plan Scale: no smaller than 1" = 50 ft.
 - b. Sheet size: 24" x 36" (larger drawings will not be accepted)
 - c. Projection and Datum: Regardless of the projection and datum utilized for the approved subdivision and/or land development plan, As-Built Plans shall be projected in the State Plane Pennsylvania South Coordinate System, NAD83, utilizing the National Geodetic Vertical Datum of 1988 for consistency with Chester County GIS (Geographic Information System) data.
 - d. Information to be shown:
 - 1) Projection (coordinate system), datum, and benchmark location and elevation.
 - 2) Street cartway and width, including curb and/or shoulder, right-of-way with widths dimensioned and Horizontal and Vertical curve data, transitions for the curb and cartway, and street grades along centerlines.
 - 3) Sidewalk including width and all handicap ramps.
 - 4) Driveway locations and widths.
 - 5) Curb with elevations on P.C. and P.T. at intersections.
 - 6) Street monuments with elevations.
 - 7) Public utility lines (water, gas, electric, cable, telephone, etc.); or, PA One Call serial number and date (construction phase notification) if as-built utility line information is not available.
 - 8) Location of all storm sewer manholes, inlets, endwalls, storm sewers including length of line, size of line, slope of line and material of line, and top and invert elevation of each manhole, inlet and endwall.
 - 9) Location of all fire hydrants.
 - 10) Location of all sanitary sewer manholes, and top of rim and invert elevation(s) of each manhole; gravity sewer mains including length of line, size of line, slope of line, and material of line; sewer laterals, lateral lengths, and depth of all lateral ends; force mains, including size, material of line and depth below finished grade; low-pressure force mains, including size, material of line and depth below finished grade; pumping stations, including site plan identifying all structures and yard piping, and structural and mechanical plans and sections of the pumping station.
 - 11) Size (volume) by contours of stormwater basins.
 - 12) Type and elevation(s) of stormwater basin outlet(s).

- 13) Width and elevation of stormwater basin emergency spillway.
- 14) Width and elevation of the top of stormwater basin berm.
- 15) Street lights and signs.
- 16) Street address for each lot.
- e. One (1) set of reproducible (Mylar) and three (3) sets of paper prints of the As-Built Plans are to be furnished after the plans have been reviewed and approved. Plans shall also be delivered to the Township on compact disc as follows:
 - 1) Digital spatial data shall be fully compatible with AutoCAD 2000 or earlier versions. Files must be provided in the AutoCAD data exchange (.dxf) format. ArcInfo data submission is acceptable in the .e00 format providing the data is determined to be acceptable. All submitted data is subject to review and approval prior to acceptance.
 - 2) The data shall be provided in an uncompressed format on a standard compact disc compatible with the Windows 95, 98, 00, and NT operating systems.
- f. The reproducible and paper plans shall be signed and sealed by a licensed Professional Engineer or Professional Land Surveyor registered in the Commonwealth of Pennsylvania.

Notes:

- (1) The Township and/or Township Engineer may require additional information if deemed necessary.
- (2) All municipal improvements shown on the approved Final Subdivision and/or Land Development Plan shall be provided on the As-Built Plans.

EXHIBIT C



Standard Details

STANDARD DETAILS

Detail	Detail No.
Minimum Street Construction Standards	1
Typical Roadway Sections	2
Storm Sewer Trench Restoration – Existing Roads	3
Storm Sewer Trench Restoration – New Roads	4
Storm Sewer Trench Restoration – Lawn/Agriculture Areas	5
Driveway With Pipe – No Curb & No Sidewalk	6A
Driveway With Gutter – No Curb & No Sidewalk	6B
Driveway With Pipe – With Sidewalk & No Curb	6C
Driveway With Gutter – With Sidewalk & No Curb	6D
Driveway With Curb & No Sidewalk	6E
Driveway With Curb & Sidewalk	6F
Driveway Detail – Adjacent Dwelling Units w/Connected Garages	7
Curb & Sidewalk Details	8
Depressed Curb & Apron	9
Curb Cut Ramp Details	10
<i>-reserved for future use-</i>	11
End of Lane Marker	12
<i>-reserved for future use-</i>	13
<i>-reserved for future use-</i>	14
<i>-reserved for future use-</i>	15
<i>-reserved for future use-</i>	16
<i>-reserved for future use-</i>	17
Standard Fire Hydrant Setting Detail	18
Emergency Access Drives	19

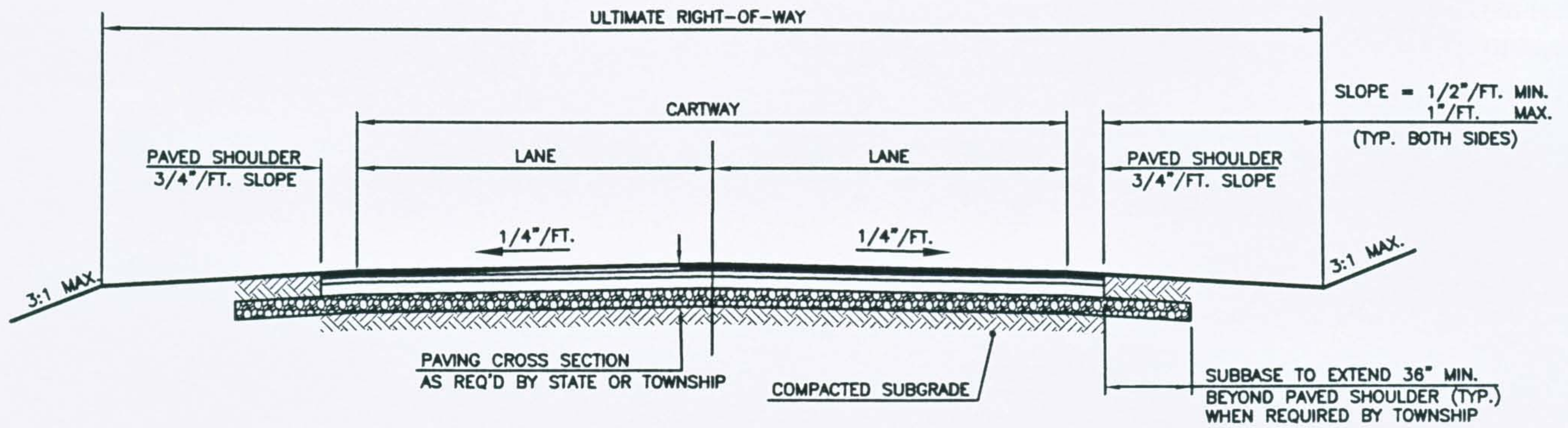
	REFERENCE *	LOCAL, COLLECTOR & ARTERIAL	COMMERCIAL
ID-2 WEARING COURSE	420	1 1/2"	1 1/2"
ID-2 BINDER COURSE	420	2"	2"
BITUMINOUS CONCRETE BASE COURSE (BCBC)	305	5"	6"
PA DOT NO. 2A COARSE AGGREGATE SUBBASE	703.2	6"	6"

NOTES:

1. ALL THICKNESS SPECIFICATIONS ARE FOR COMPACTED MATERIALS.
2. BCBC OVER (5) INCHES IN DEPTH SHALL BE LAID IN TWO (2) PASSES.
3. ALL BASE COURSES AND/OR ID-2 BINDER COURSE SHALL BE OVER LAID WITH A WEARING COURSE NO LATER THAN ONE YEAR AFTER INSTALLATION UNLESS APPROVED OTHERWISE BY THE TOWNSHIP.
4. BINDER COURSE SHALL BE INSTALLED IMMEDIATELY FOLLOWING BASE COURSE INSTALLATION.

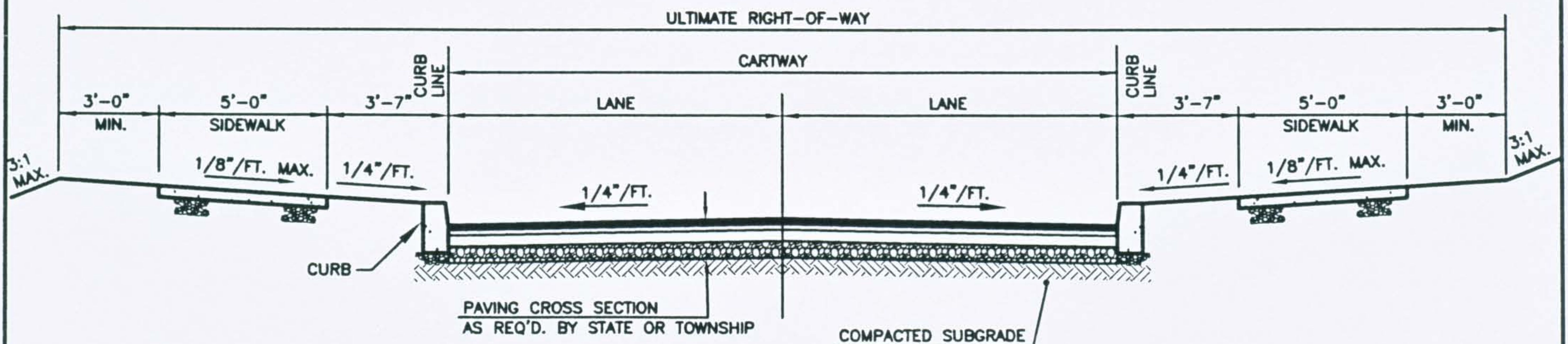
* REFERENCE TO SECTION NUMBER IN PADOT Pub. 408, LATEST REVISION.

		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	MINIMUM STREET CONSTRUCTION STANDARDS	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 1



TYPICAL ROADWAY SECTION

NO SCALE



TYPICAL ROADWAY SECTION W/ CURB & SIDEWALK

NO SCALE

EAST COVENTRY TOWNSHIP

STANDARD DETAIL

ARRO
ARRO Consulting, Inc.

Suite 100, 649 North Lewis Road
Limerick, Pennsylvania 19468
Tel 610.495.0303

TYPICAL ROADWAY SECTIONS

DATE:
SEPTEMBER 2002

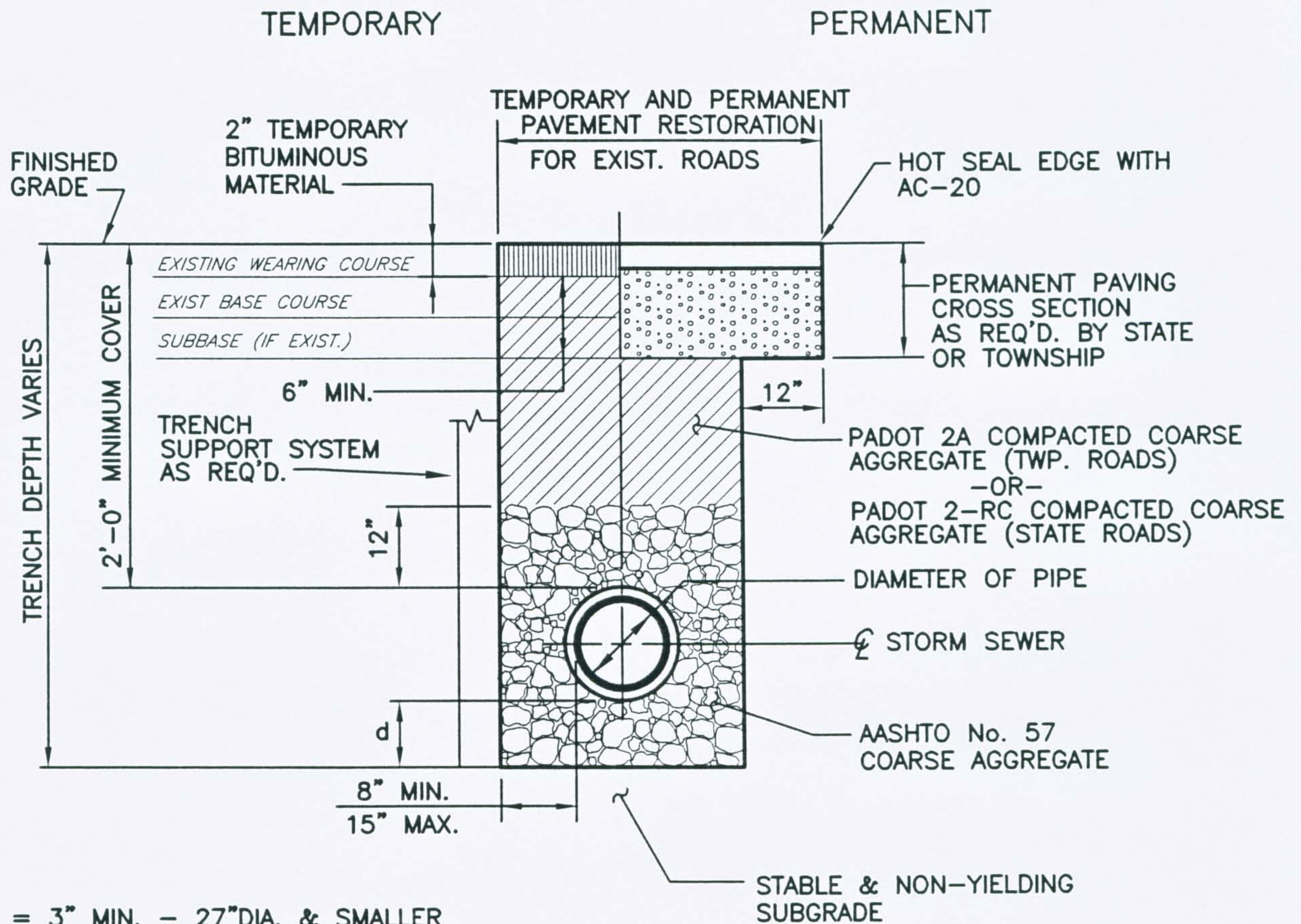
DETAIL:
2

1

2/13/04

REVISION

DATE

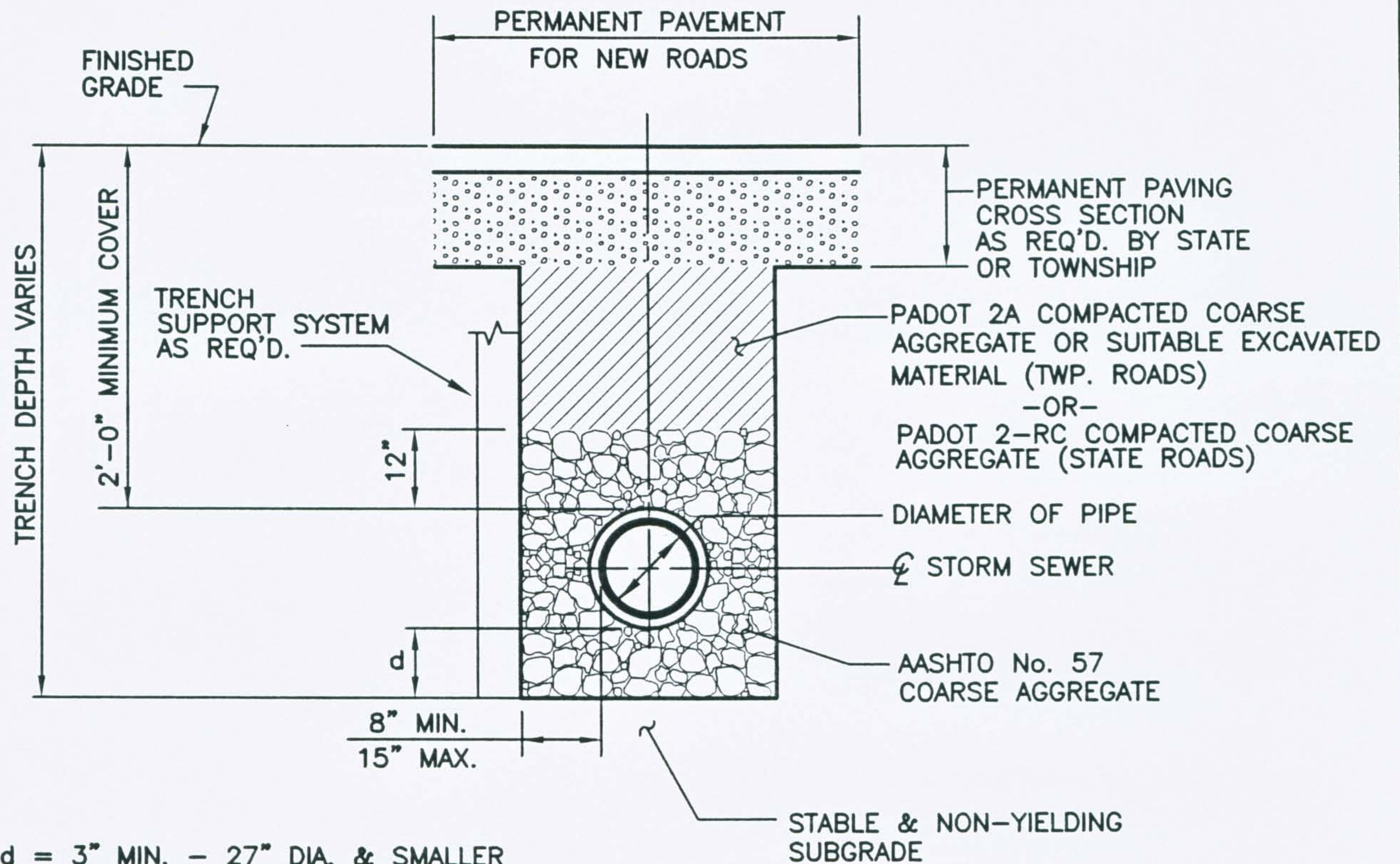


d = 3" MIN. - 27" DIA. & SMALLER
 = 4" MIN. - 30" DIA. TO 60" DIA.
 = 6" MIN. > 60" DIA.

NOTES:

1. PROVIDE TRENCH SUPPORT SYSTEM AS REQ'D. FOR EXCAVATION PROTECTION & TO ALLOW FOR REQ'D. COMPACTION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING TRENCHES, IF REQ'D., BEFORE PLACEMENT OF BEDDING MATERIAL.
3. FOR STATE ROADS, ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE. DESIGN & CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HIGHWAY OCCUPANCY PERMIT ISSUED BY PADOT FOR THE SPECIFIC PROJECT.

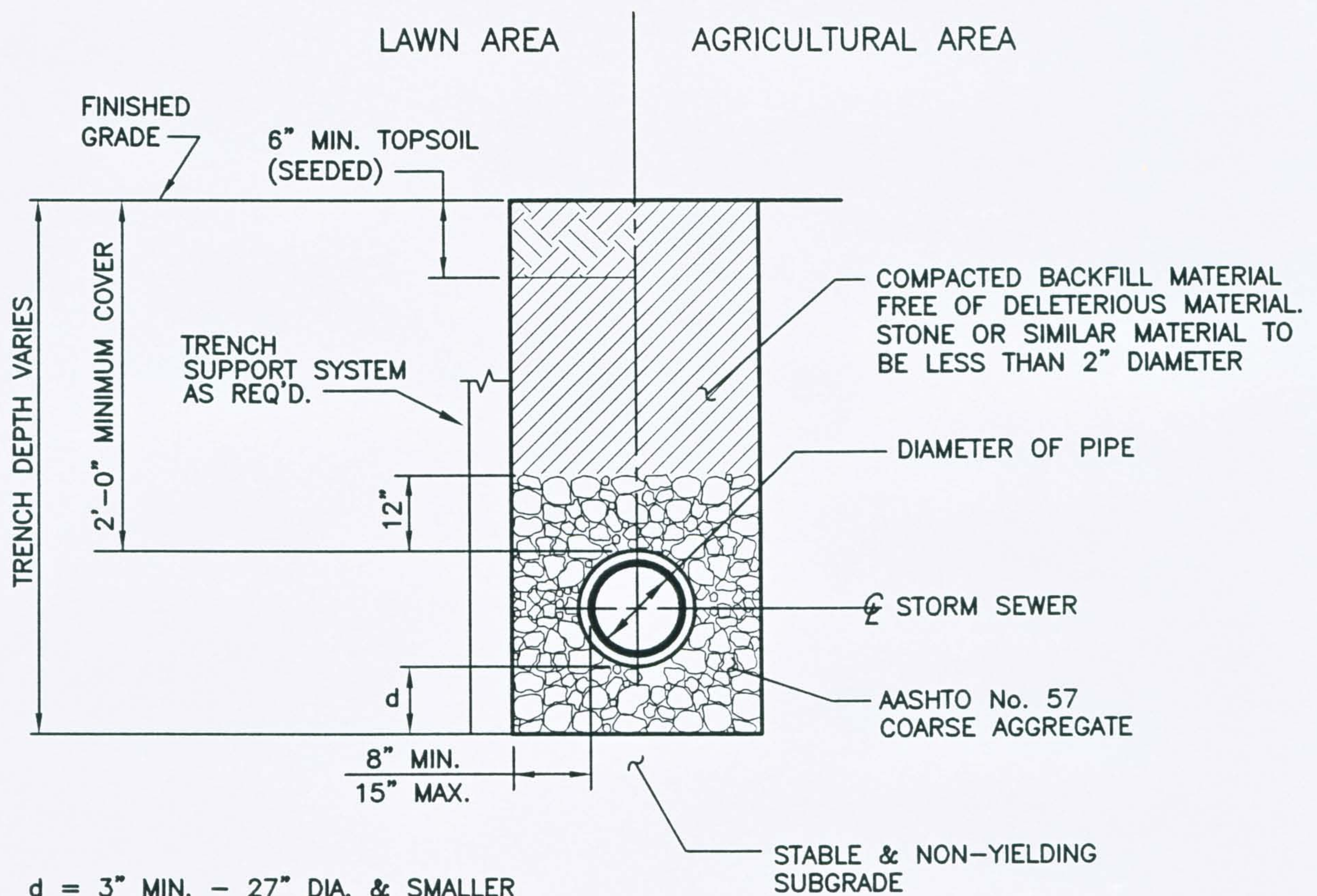
		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	STORM SEWER TRENCH RESTORATION - EXISTING ROADS	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 3



NOTES:

1. PROVIDE TRENCH SUPPORT SYSTEM AS REQ'D. FOR EXCAVATION PROTECTION & TO ALLOW FOR REQ'D. COMPACTION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING TRENCHES, IF REQ'D., BEFORE PLACEMENT OF BEDDING MATERIAL.
3. FOR STATE ROADS, ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE. DESIGN & CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HIGHWAY OCCUPANCY PERMIT ISSUED BY PADOT FOR THE SPECIFIC PROJECT.

		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	STORM SEWER TRENCH RESTORATION - NEW ROADS	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 4

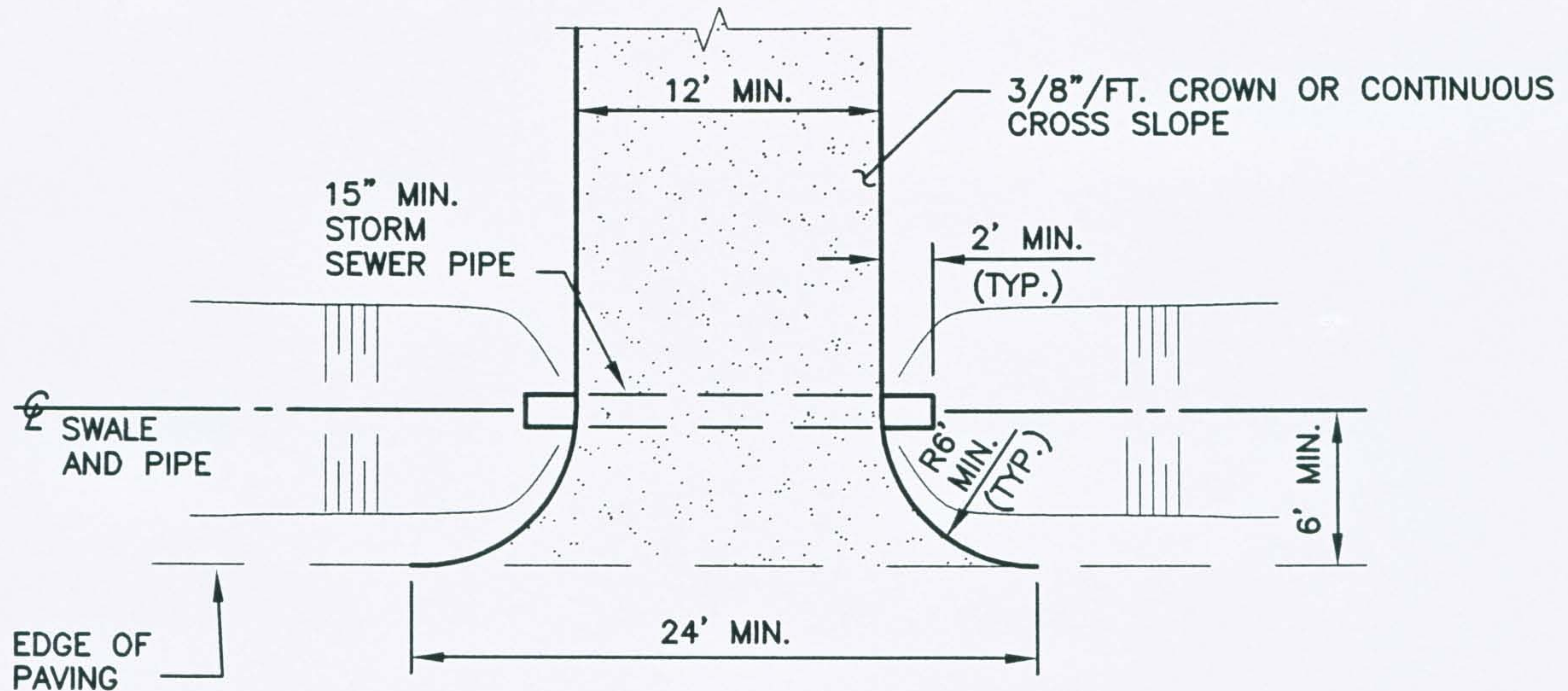


d = 3" MIN. - 27" DIA. & SMALLER
 = 4" MIN. - 30" DIA. TO 60" DIA.
 = 6" MIN. > 60" DIA.

NOTES:

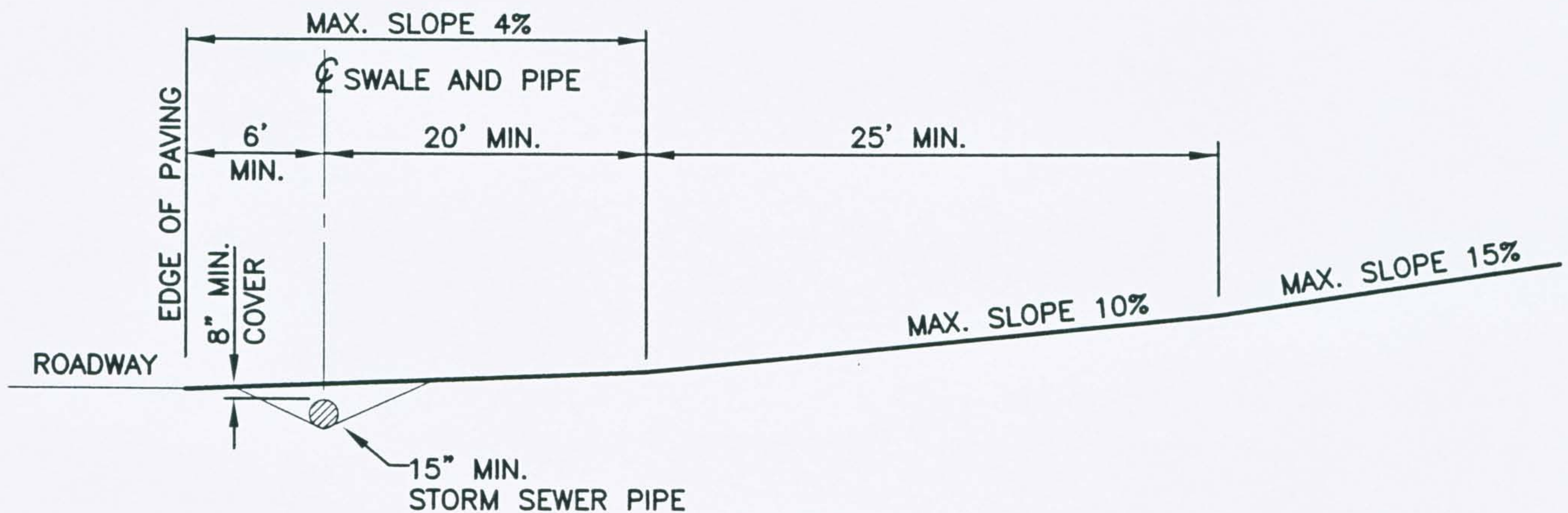
1. PROVIDE TRENCH SUPPORT SYSTEM AS REQ'D. FOR EXCAVATION PROTECTION & TO ALLOW FOR REQ'D. COMPACTION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING TRENCHES, IF REQ'D., BEFORE PLACEMENT OF BEDDING MATERIAL.
3. IF EDGE OF TRENCH IS 3' OR LESS FROM EDGE OF PAVING OF A STATE ROAD, RESTORATION ABOVE TOP OF PIPE SHALL BE IN ACCORDANCE WITH THE HIGHWAY OCCUPANCY PERMIT ISSUED BY PADOT FOR THE SPECIFIC PROJECT.

		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	STORM SEWER TRENCH RESTORATION - LAWN/AGRICULTURAL AREAS	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 5



PLAN

NO SCALE



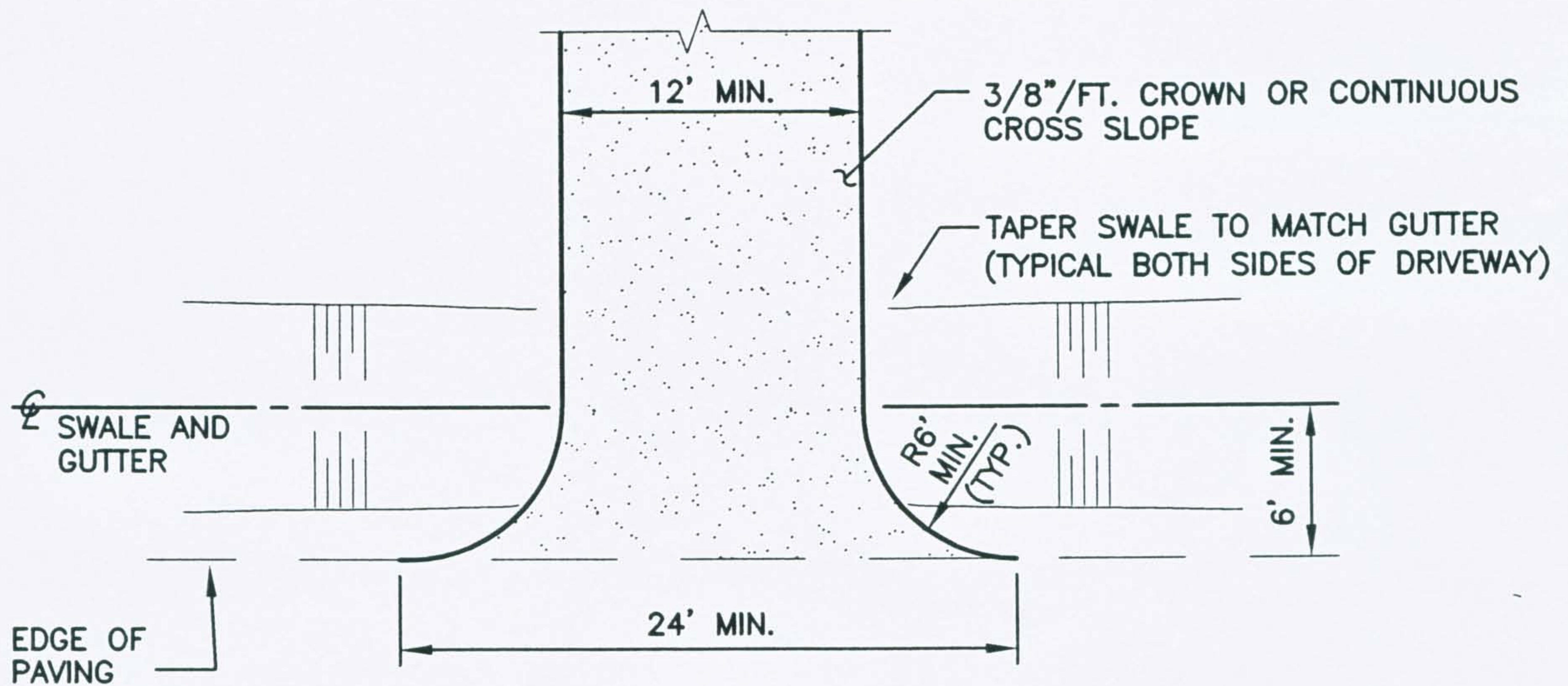
PROFILE

NO SCALE

NOTES:

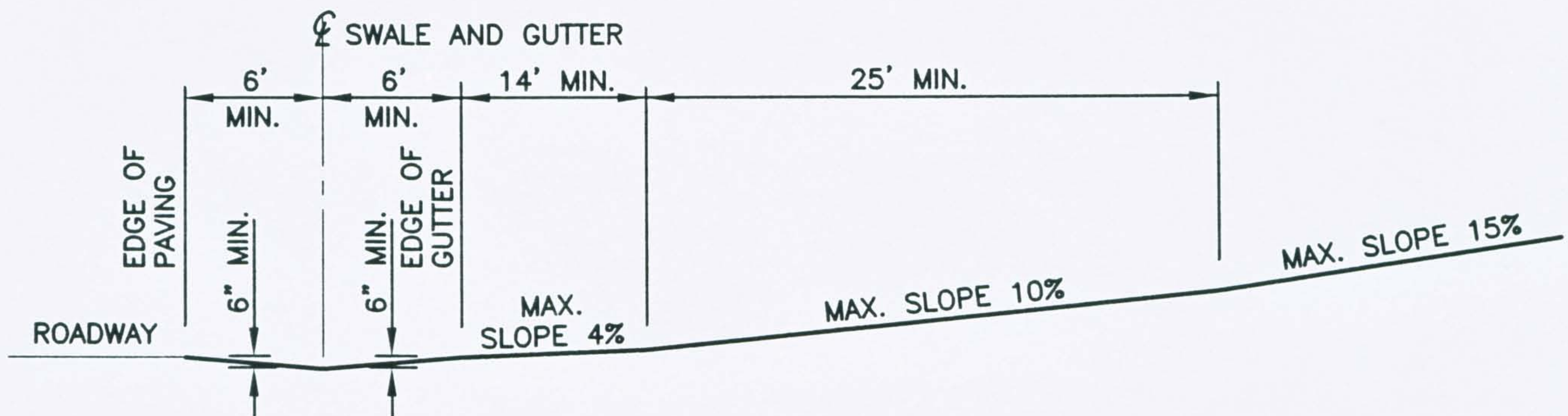
1. INTERSECTION OF DRIVEWAY WITH EDGE OF PAVING SHALL BE CONSTRUCTED BY USE OF EITHER A PIPE OR GUTTER AT THE DIRECTION OF THE BOARD UPON RECOMMENDATION OF THE ENGINEER (NEW DRIVEWAYS), OR AT THE DIRECTION OF THE DRIVEWAY INSPECTOR (EXISTING DRIVEWAYS).
2. A TAPERED APRON MAY BE USED IN LIEU OF A RADIUS IF APPROVED BY THE TOWNSHIP ENGINEER.
3. DRIVEWAY CROSS SECTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IDENTIFIED IN THE TOWNSHIP'S DRIVEWAY ORDINANCE.

		<div>EAST COVENTRY TOWNSHIP</div> <div>STANDARD DETAIL</div>	<div><div>ARRO Consulting, Inc.</div><div>Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303</div></div>
1	2/13/04	<div>DRIVEWAY WITH PIPE - NO CURB & NO SIDEWALK</div>	DATE: OCTOBER 6, 2003
REVISION	DATE		DETAIL: 6A



PLAN

NO SCALE



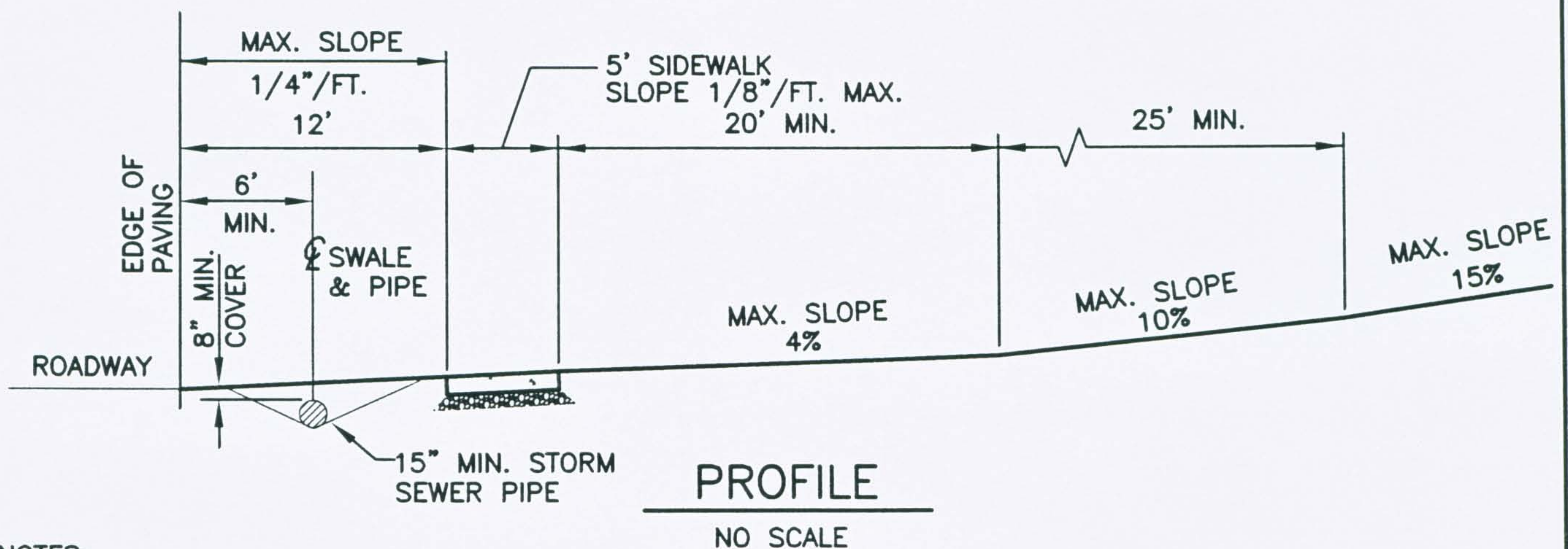
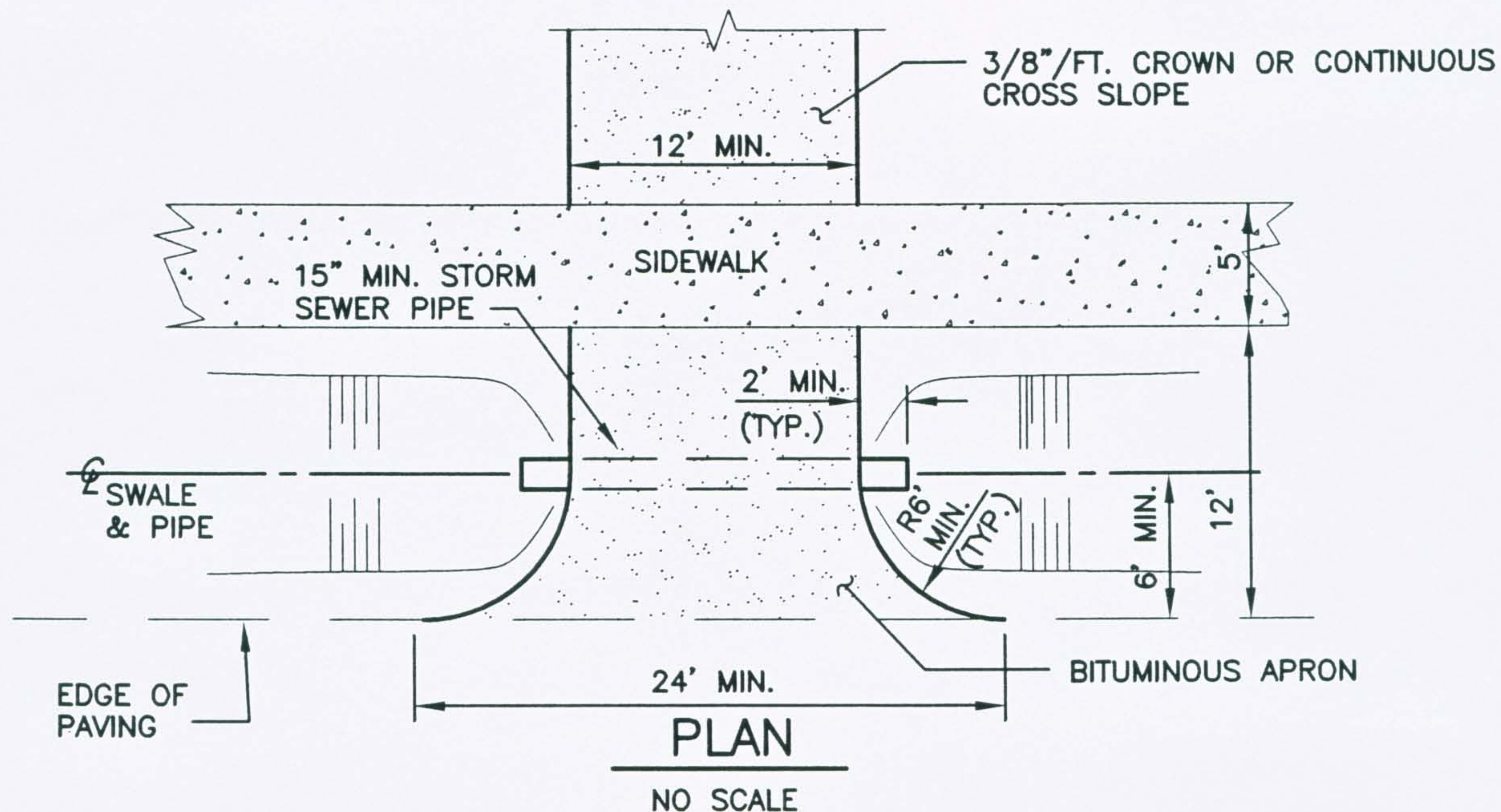
PROFILE

NO SCALE

NOTES:

1. INTERSECTION OF DRIVEWAY WITH EDGE OF PAVING SHALL BE CONSTRUCTED BY USE OF EITHER A PIPE OR GUTTER AT THE DIRECTION OF THE BOARD UPON RECOMMENDATION OF THE ENGINEER (NEW DRIVEWAYS), OR AT THE DIRECTION OF THE DRIVEWAY INSPECTOR (EXISTING DRIVEWAYS).
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3. DRIVEWAY CROSS SECTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IDENTIFIED IN THE TOWNSHIP'S DRIVEWAY ORDINANCE.

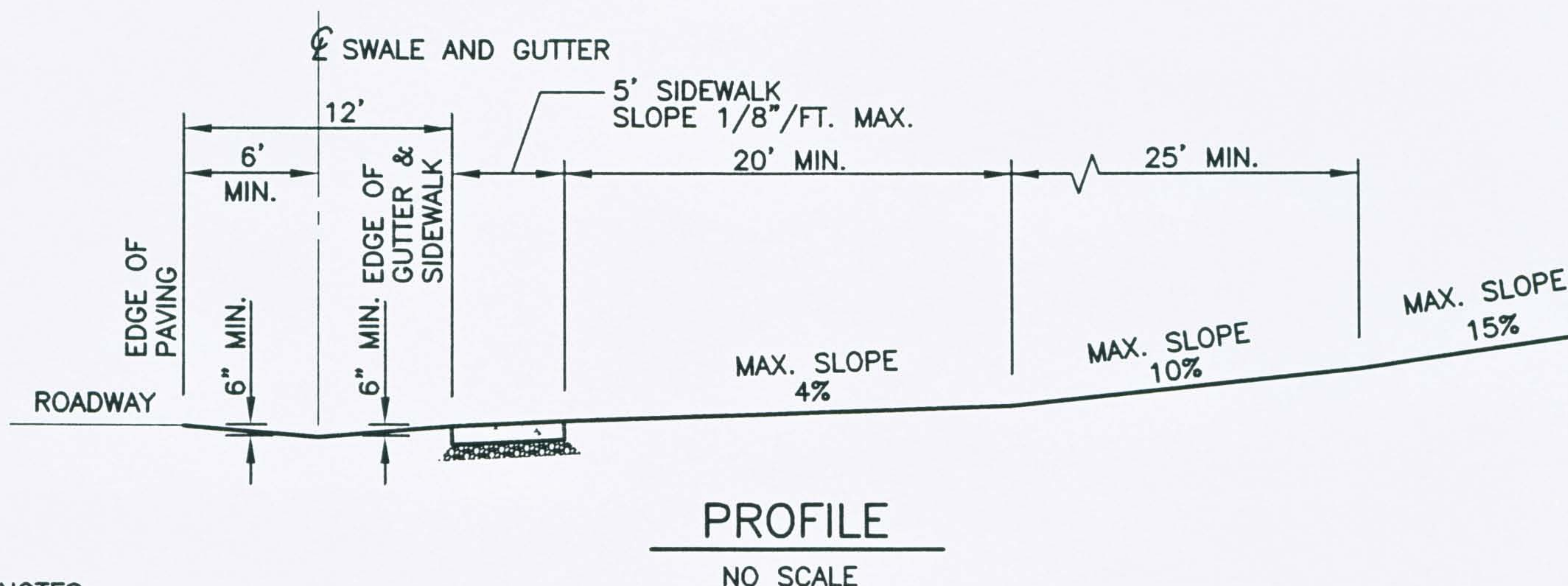
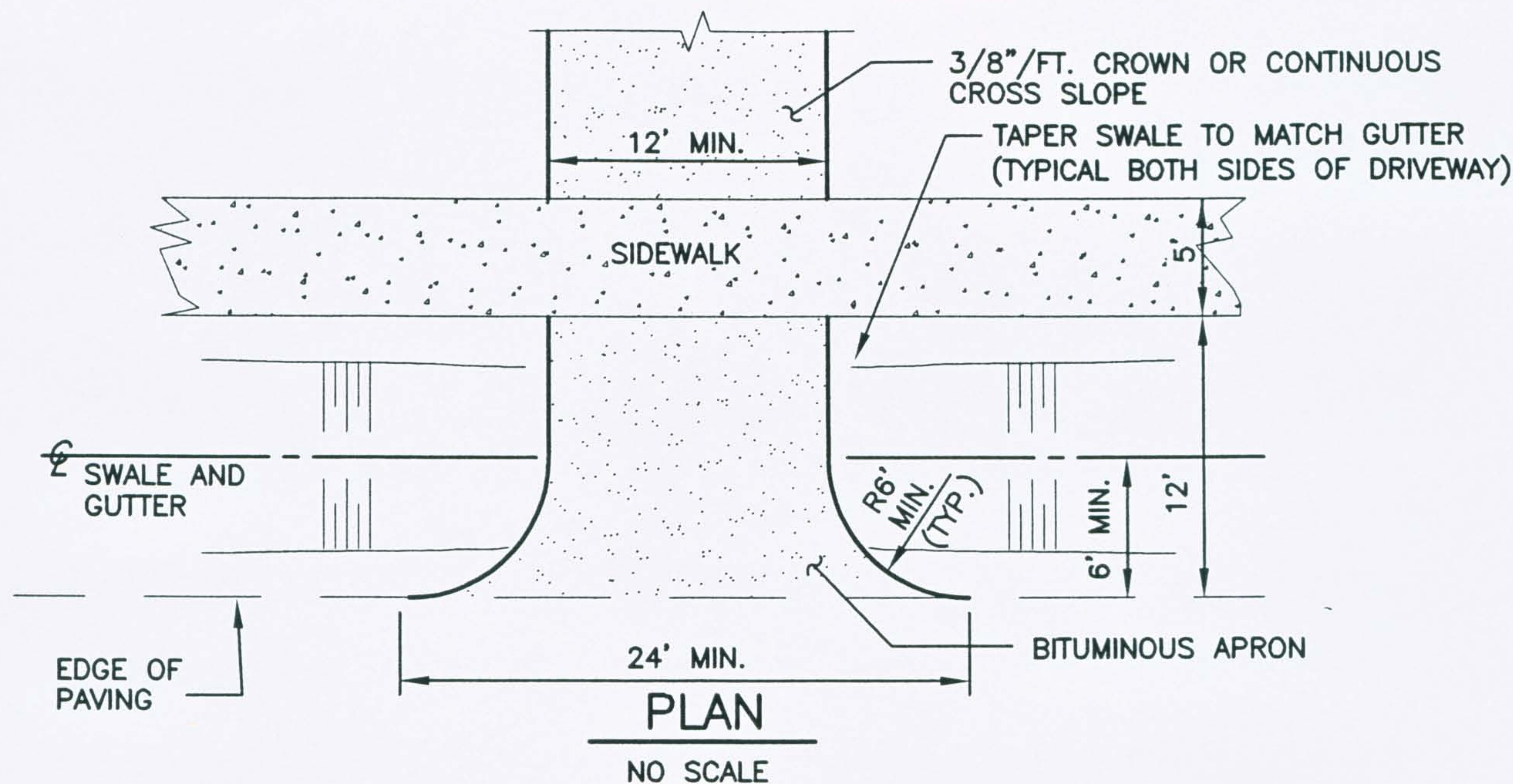
		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 <i>ARRO Consulting, Inc.</i> Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	DRIVEWAY WITH GUTTER - NO CURB & NO SIDEWALK	DATE: OCTOBER 6, 2003
REVISION	DATE		DETAIL: 6B



NOTES:

1. INTERSECTION OF DRIVEWAY WITH EDGE OF PAVING SHALL BE CONSTRUCTED BY USE OF EITHER A PIPE OR GUTTER AT THE DIRECTION OF THE BOARD UPON RECOMMENDATION OF THE ENGINEER (NEW DRIVEWAYS), OR AT THE DIRECTION OF THE DRIVEWAY INSPECTOR (EXISTING DRIVEWAYS).
2. CONCRETE APRON MAY BE UTILIZED IN LIEU OF BITUMINOUS APRON IF APPROVED BY THE TOWNSHIP ENGINEER. IF CONCRETE APRON IS UTILIZED, A 1/2" PREMOLDED EXPANSION JOINT SHALL BE PROVIDED BETWEEN THE APRON AND SIDEWALK.
3. A TAPERED APRON MAY BE USED IN LIEU OF A RADIUS IF APPROVED BY THE TOWNSHIP ENGINEER.
4. DRIVEWAY & BITUMINOUS APRON CROSS SECTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IDENTIFIED IN THE TOWNSHIP'S DRIVEWAY ORDINANCE.

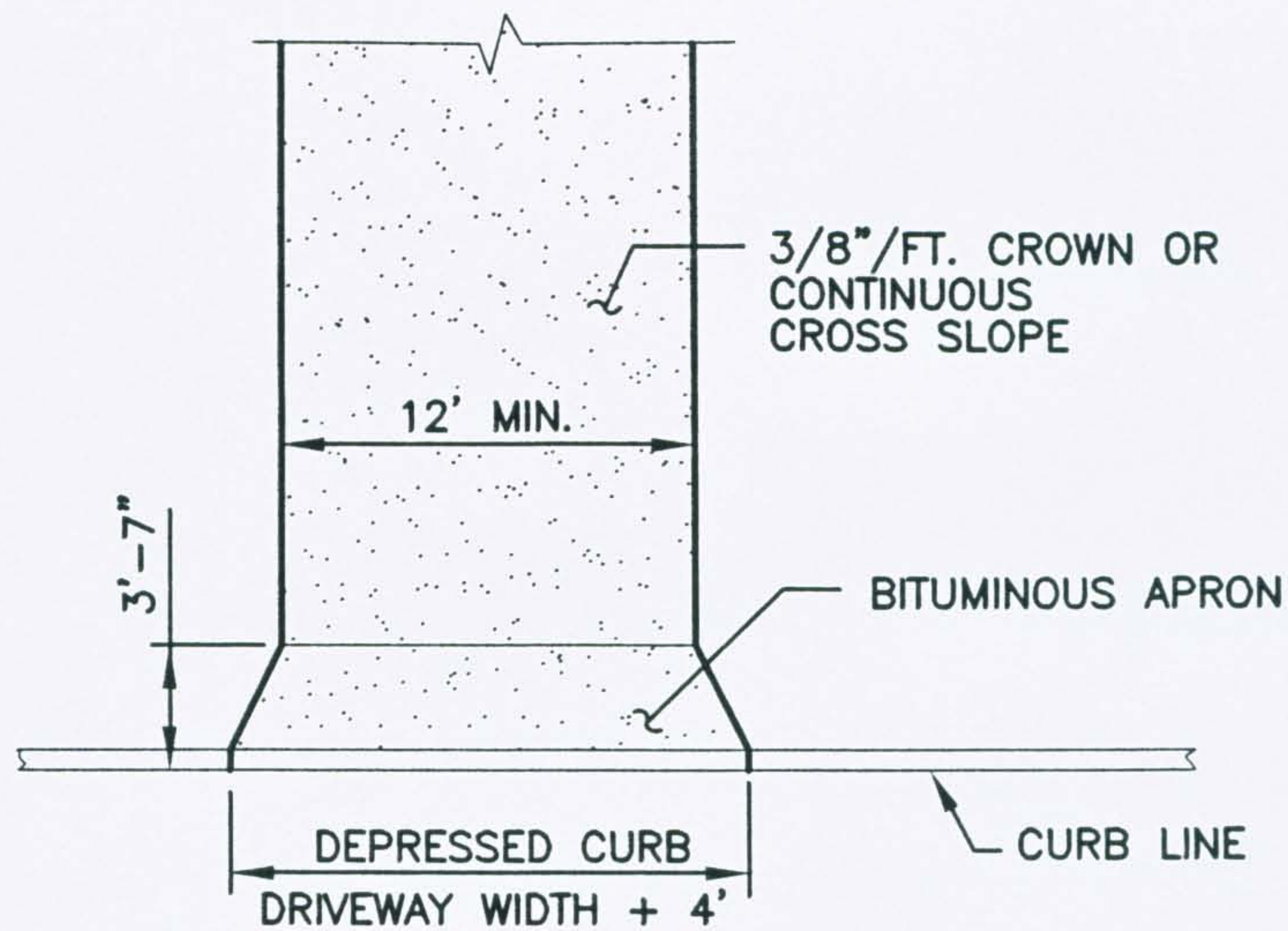
		EAST COVENTRY TOWNSHIP	 <i>ARRO Consulting, Inc.</i>
		STANDARD DETAIL	Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	DRIVEWAY WITH PIPE - WITH SIDEWALK & NO CURB	DATE: OCTOBER 6, 2003
REVISION	DATE		DETAIL: 6C



NOTES:

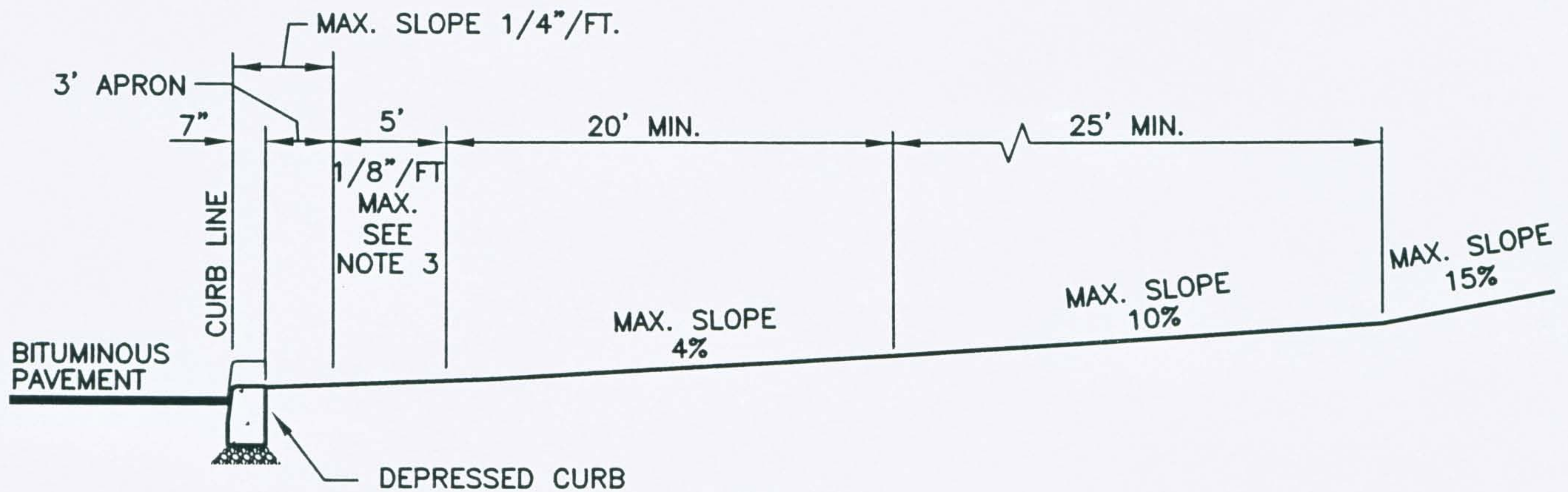
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3. A TAPERED APRON MAY BE USED IN LIEU OF A RADIUS IF APPROVED BY THE TOWNSHIP ENGINEER.
4. DRIVEWAY & BITUMINOUS APRON CROSS SECTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IDENTIFIED IN THE TOWNSHIP'S DRIVEWAY ORDINANCE.

		<div>EAST COVENTRY TOWNSHIP</div> <div>STANDARD DETAIL</div>	<div><div>ARRO</div><div>ARRO Consulting, Inc.</div><div>Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303</div></div>
1	2/13/04	<div>DRIVEWAY WITH GUTTER - WITH SIDEWALK & NO CURB</div>	DATE: OCTOBER 6, 2003
REVISION	DATE		DETAIL: 6D



PLAN

NO SCALE



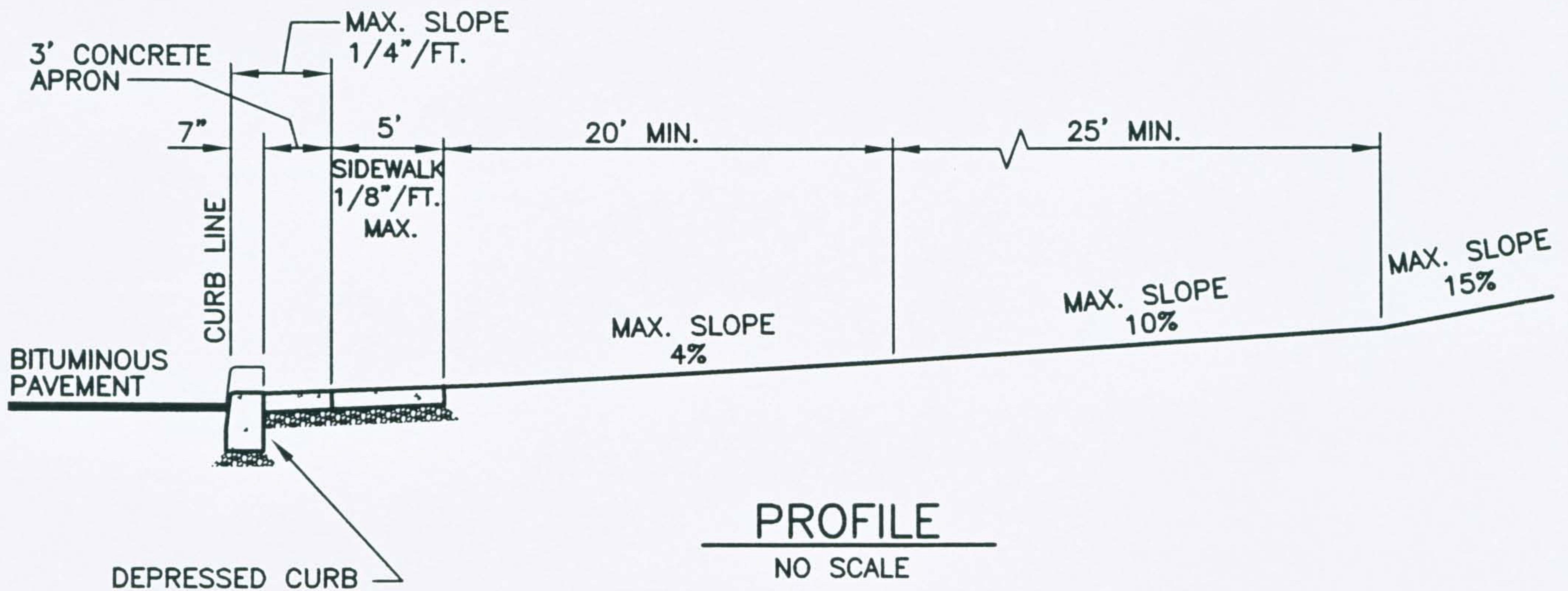
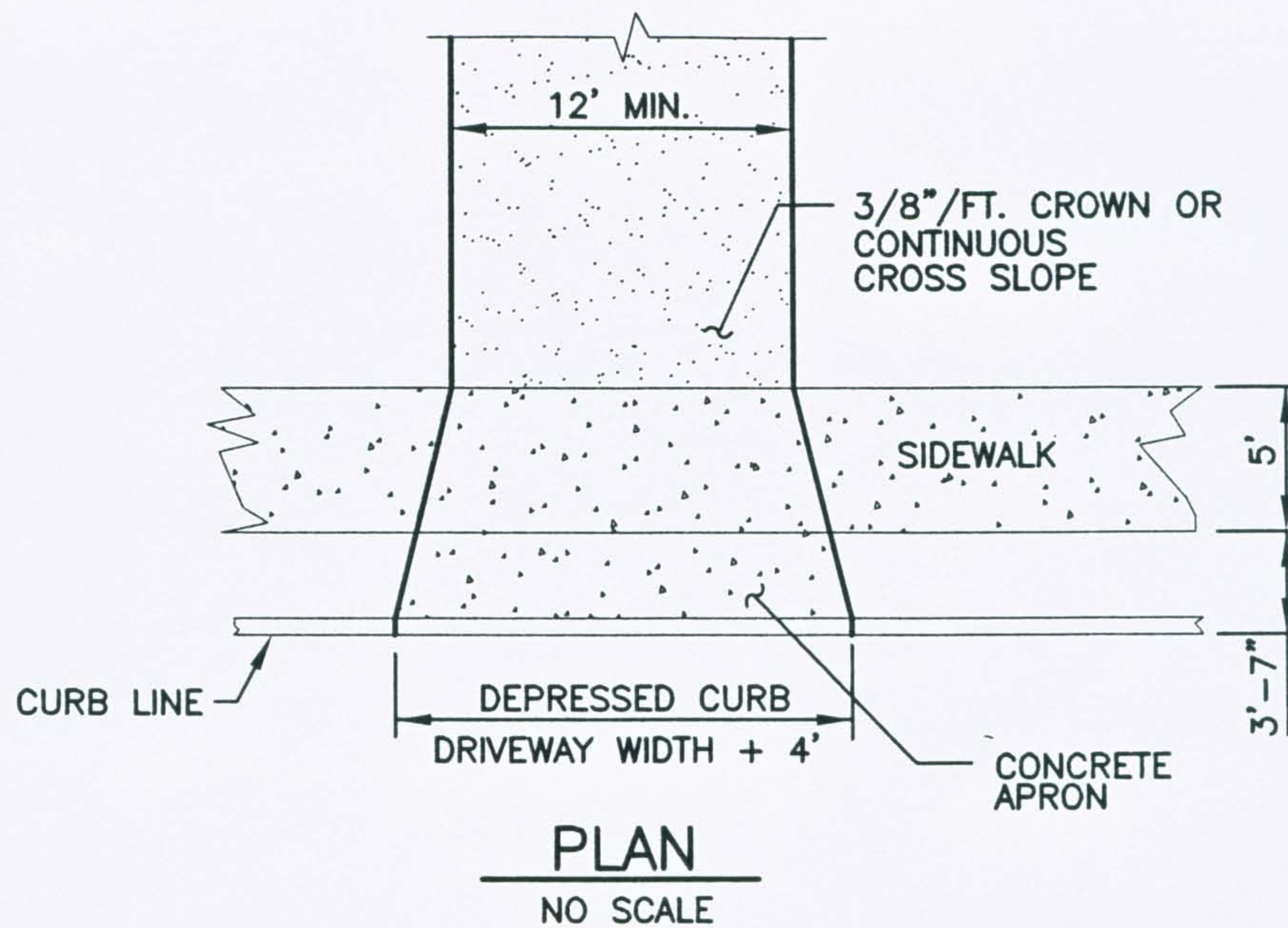
PROFILE

NO SCALE

NOTES:

1. DRIVEWAY & BITUMINOUS APRON CROSS SECTION SHALL BE IN ACCORDANCE WITH THE DRIVEWAY REQUIREMENTS IDENTIFIED IN THE TOWNSHIP'S DRIVEWAY ORDINANCE
2. CONCRETE APRON MAY BE UTILIZED IN LIEU OF BITUMINOUS APRON IF APPROVED BY THE TOWNSHIP ENGINEER. IF CONCRETE APRON IS UTILIZED, A 1/2" PREMOLDED EXPANSION JOINT SHALL BE PROVIDED BETWEEN THE APRON AND CURB.
3. A 5' WIDTH SHALL BE PROVIDED ADJACENT TO THE APRON TO ACCOMMODATE POTENTIAL FUTURE SIDEWALK.

		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	DRIVEWAY WITH CURB & NO SIDEWALK	DATE: OCTOBER 6, 2003
REVISION	DATE		DETAIL: 6E



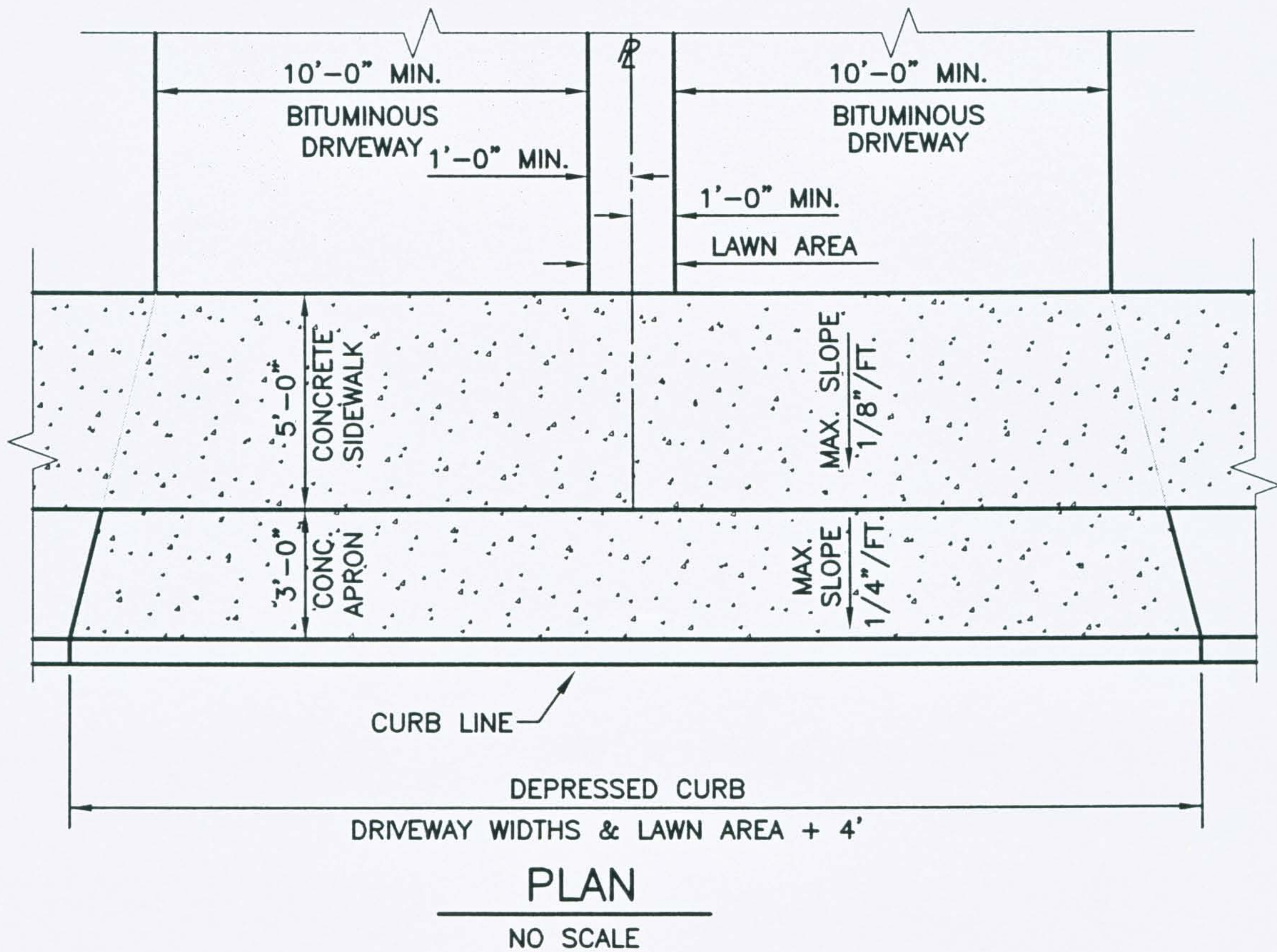
NOTES:

1. DRIVEWAY CROSS SECTION SHALL BE IN ACCORDANCE WITH THE DRIVEWAY REQUIREMENTS IDENTIFIED IN THE TOWNSHIP'S DRIVEWAY ORDINANCE.
2. 1/2" PREMOLDED EXPANSION JOINT SHALL BE PROVIDED BETWEEN THE APRON AND SIDEWALK AND BETWEEN THE APRON AND CURB.

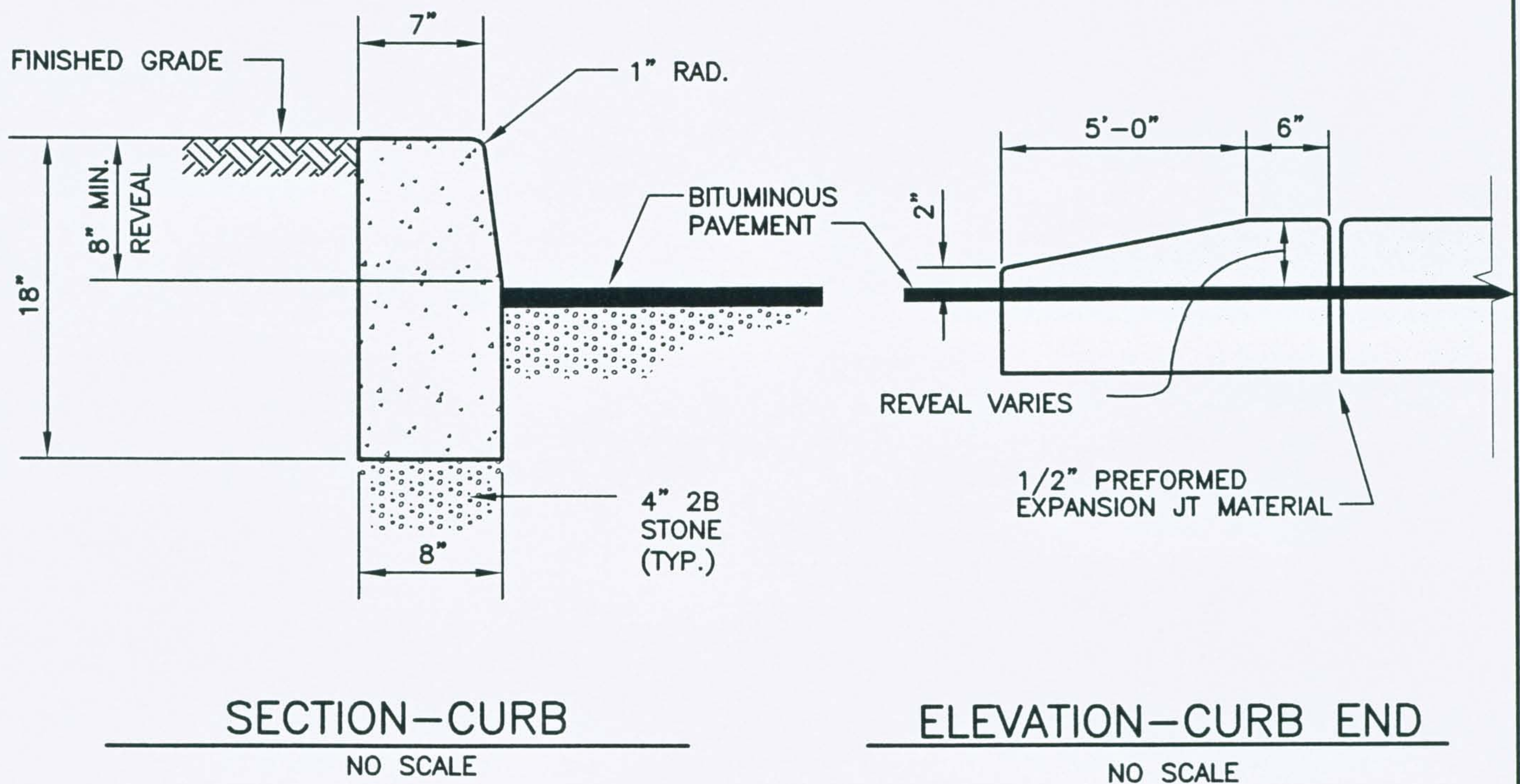
		<div>EAST COVENTRY TOWNSHIP</div> <div>STANDARD DETAIL</div>	<div><div>ARRO Consulting, Inc.</div><div>Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303</div></div>
1	2/13/04	<div>DRIVEWAY</div> <div>WITH CURB & SIDEWALK</div>	<div>DATE:</div> <div>OCTOBER 6, 2003</div>
REVISION	DATE		<div>DETAIL:</div> <div>6F</div>

NOTES:

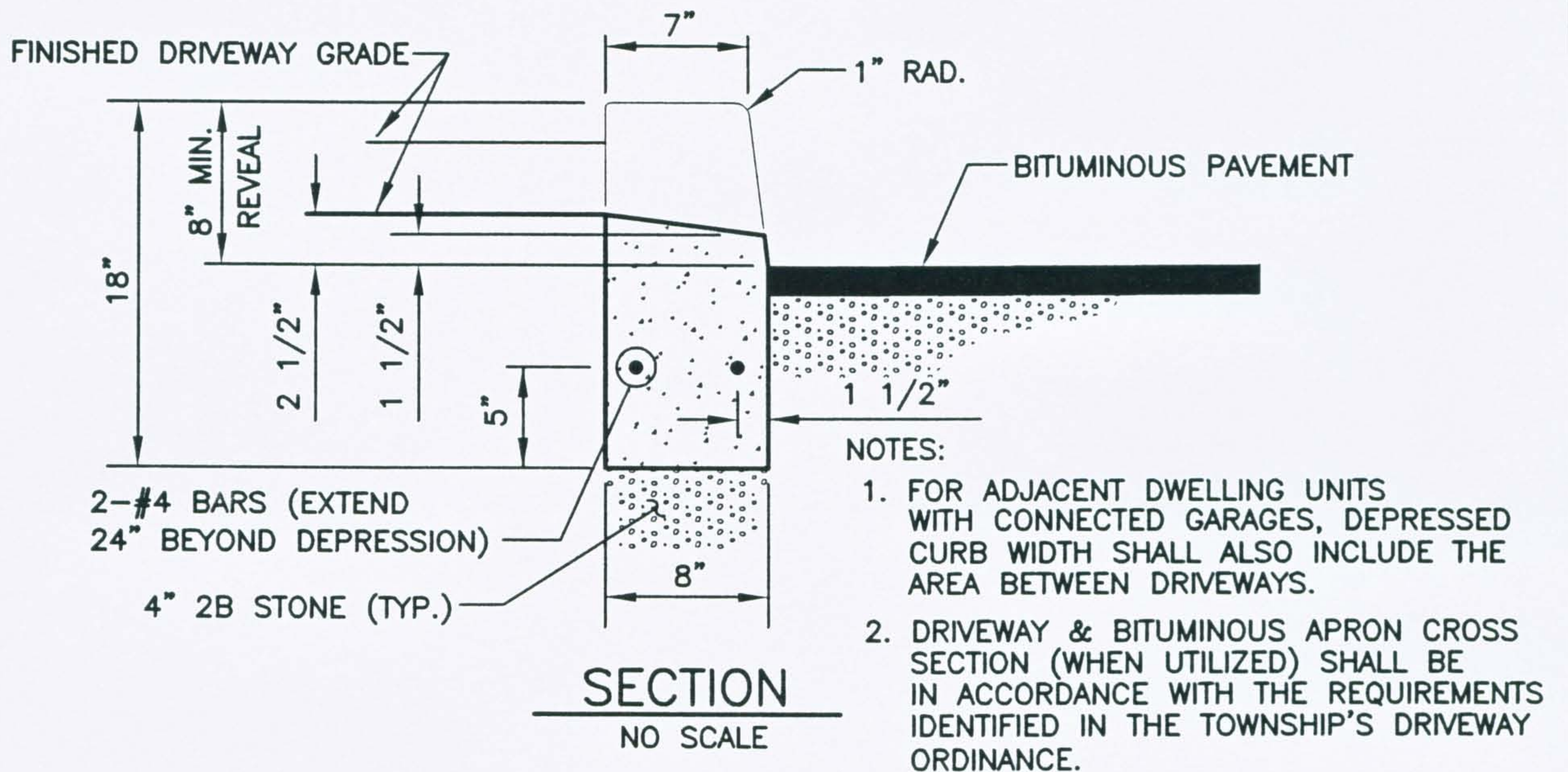
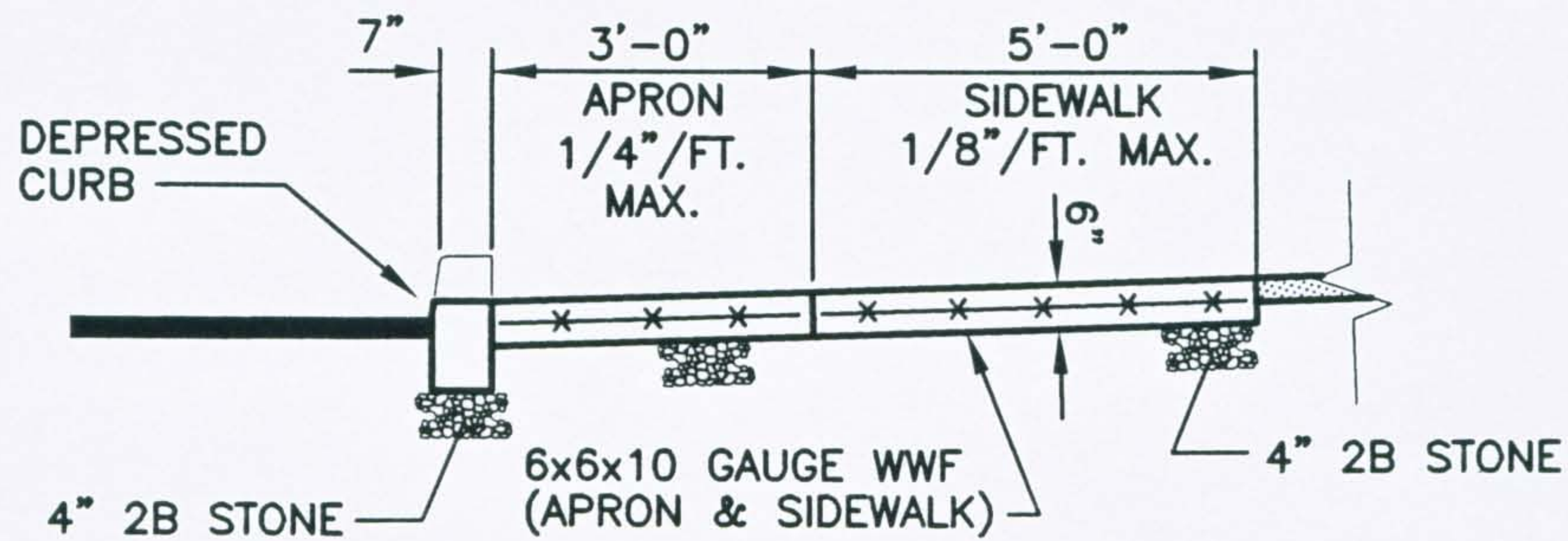
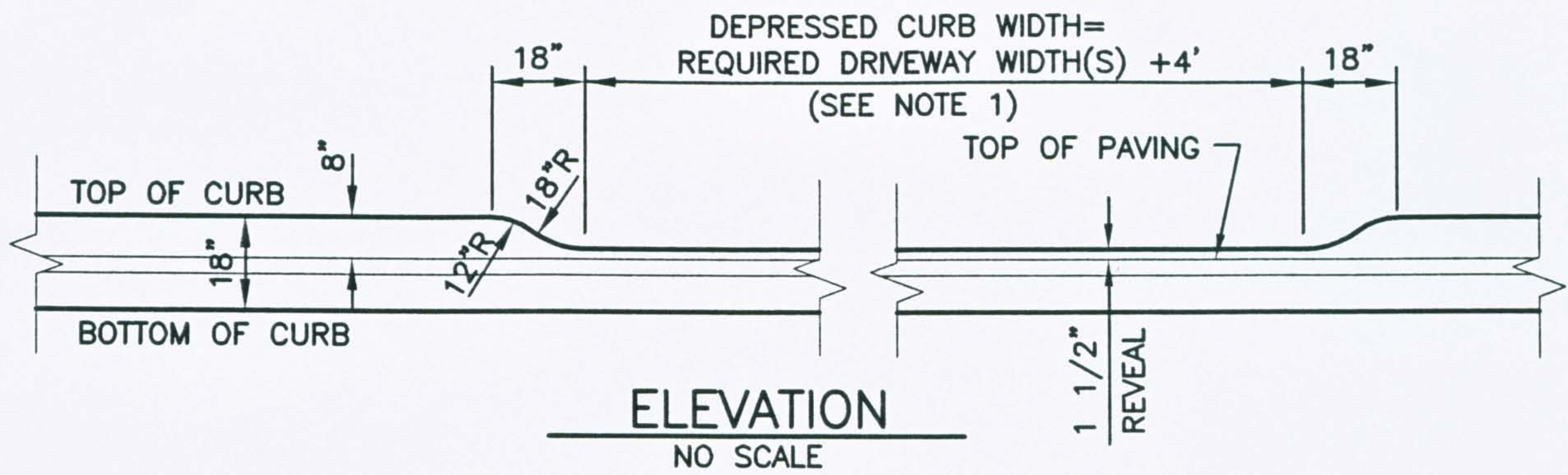
1. DRIVEWAY CROSS SECTION SHALL BE IN ACCORDANCE WITH THE DRIVEWAY REQUIREMENTS IDENTIFIED IN THE TOWNSHIP'S DRIVEWAY ORDINANCE.
2. 1/2" PREMOLDED EXPANSION JOINT SHALL BE PROVIDED BETWEEN THE CONCRETE APRON AND SIDEWALK AND BETWEEN THE CONCRETE APRON AND CURB.



		<div>EAST COVENTRY TOWNSHIP</div> <div>STANDARD DETAIL</div>	<div><div>ARRO</div><div>ARRO Consulting, Inc.</div></div> <div>Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303</div>
1	2/13/04	<div>DRIVEWAY DETAIL-</div> <div>ADJACENT DWELLING UNITS W/</div> <div>CONNECTED GARAGES</div>	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 7



		<p>EAST COVENTRY TOWNSHIP</p> <p>STANDARD DETAIL</p>	 <p>Suite 100, 649 North Lewis Road Limerick, Pennsylvania 1968 Tel 610.495.0303</p>
1	2/13/04	<p>CURB & SIDEWALK DETAILS</p>	<p>DATE: SEPTEMBER 2002</p>
REVISION	DATE		<p>DETAIL: 8</p>



EAST COVENTRY TOWNSHIP

STANDARD DETAIL

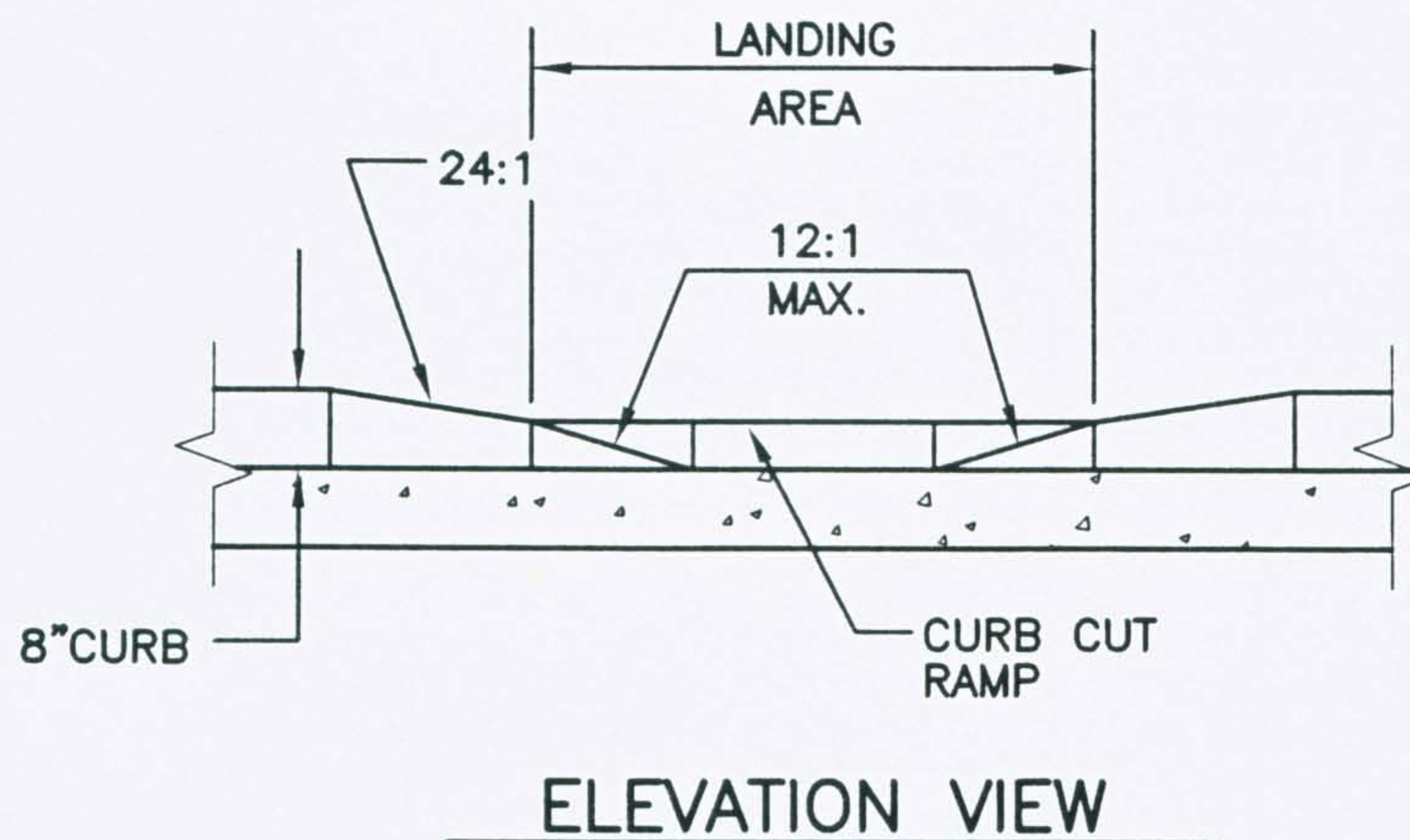
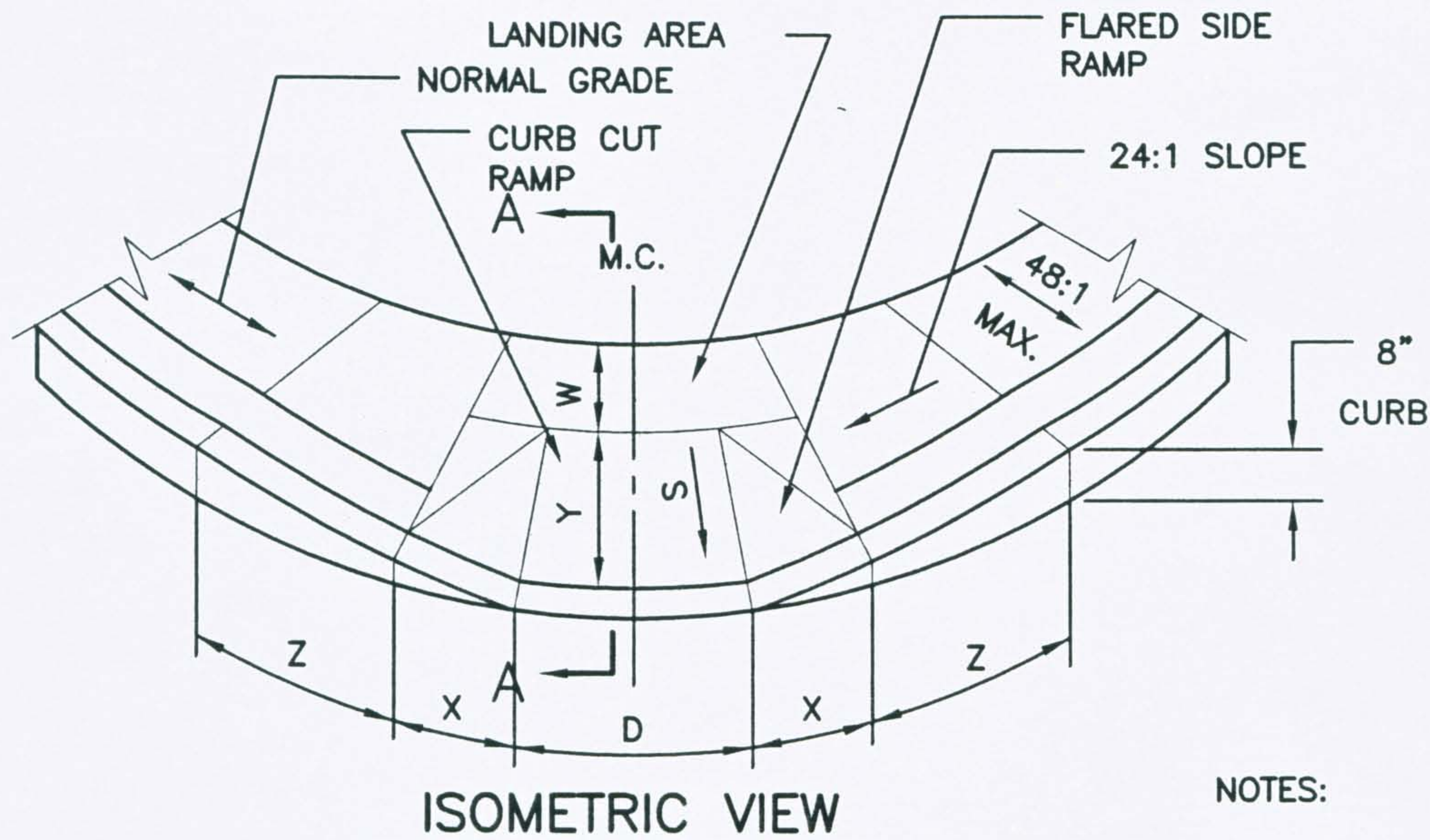
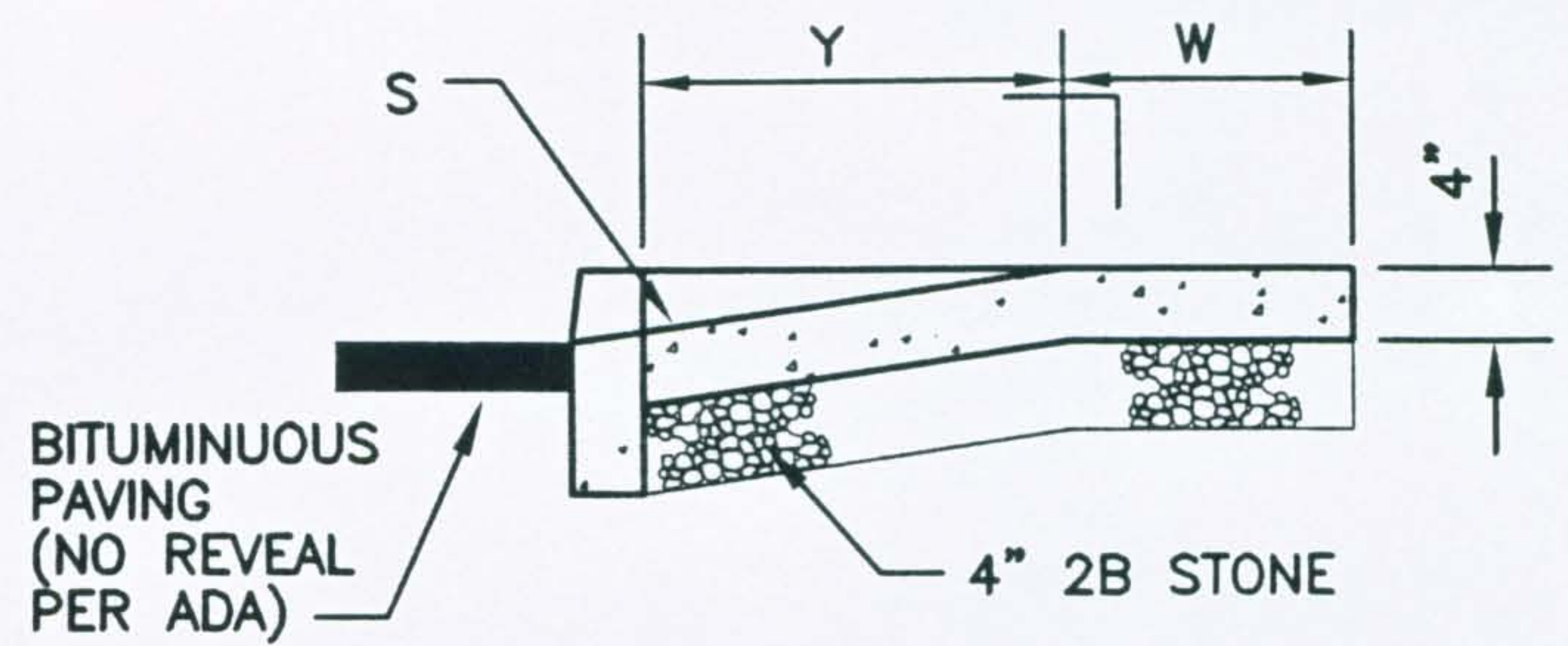
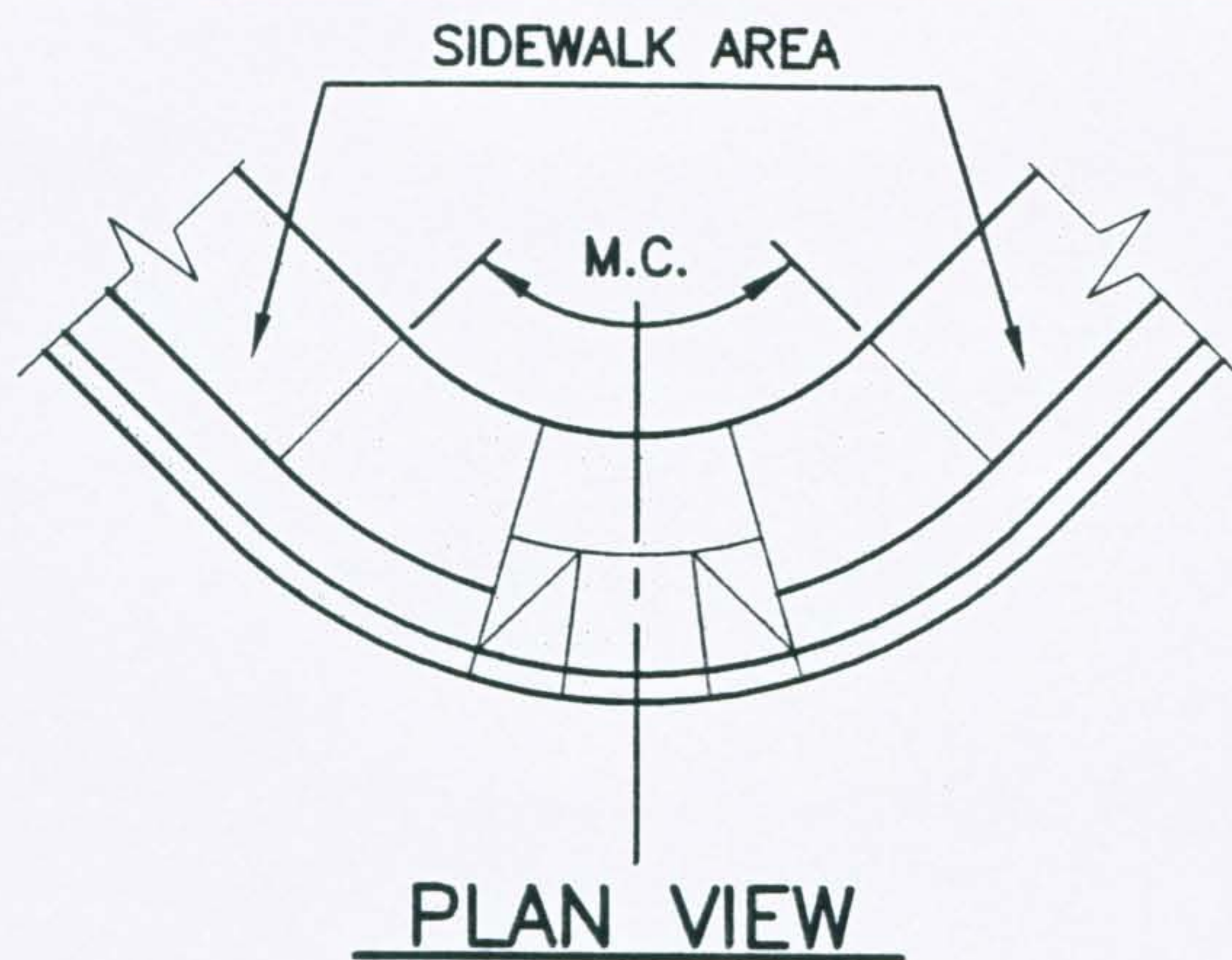
**DEPRESSED CURB &
APRON**

ARRO
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Suite 100, 649 North Lewis Road
Limerick, Pennsylvania 19468
Tel 610.495.0303

DATE:
SEPTEMBER 2002

DETAIL:
9



NOTES:

1. PROVIDE 1/2" EXPANSION JOINT MATERIAL WHERE CURB CUT RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
2. DIMENSIONS AND SLOPES SHALL BE ADHERED TO UNLESS EXISTING CONDITIONS REQUIRE SPECIAL DESIGN BASED ON ROADWAY GRADES.
3. PROVIDE SLIP RESISTANT TEXTURE ON CURB CUT RAMP BY COURSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB CUT RAMP INCLUDING FLARED SIDE RAMPS.

		EAST COVENTRY TOWNSHIP	 ARRO Consulting, Inc.
		STANDARD DETAIL	Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	CURB CUT RAMP DETAILS	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 10

RISE OF RAMP	D	E	L	S	S _R	W	X	Y	Z
3"	3'-0"	5'-0"	3'-0"	8:1	12:1	3'-0"	3'-0"	2'-0"	10'-0"
3"	3'-0"	6'-0"	3'-0"	10:1	12:1	3'-6"	3'-0"	2'-6"	10'-0"
3"	3'-0"	7'-0"	3'-0"	12:1	12:1	4'-0"	3'-0"	3'-0"	10'-0"
4"	4'-0"	8'-0"	2'-0"	12:1	10:1	4'-0"	3'-6"	4'-0"	8'-0"
5"	4'-0"	9'-0"	-	12:1	10:1	4'-0"	4'-0"	5'-0"	6'-0"
6"	4'-0"	10'-0"	-	12:1	10:1	4'-0"	5'-0"	6'-0"	4'-0"
7"	4'-0"	11'-0"	-	12:1	10:1	4'-0"	6'-0"	7'-0"	2'-0"
8"	4'-0"	12'-0"	-	12:1	10:1	4'-0"	*7'-0"	8'-0"	-

* 5'-0" on M.C. Side

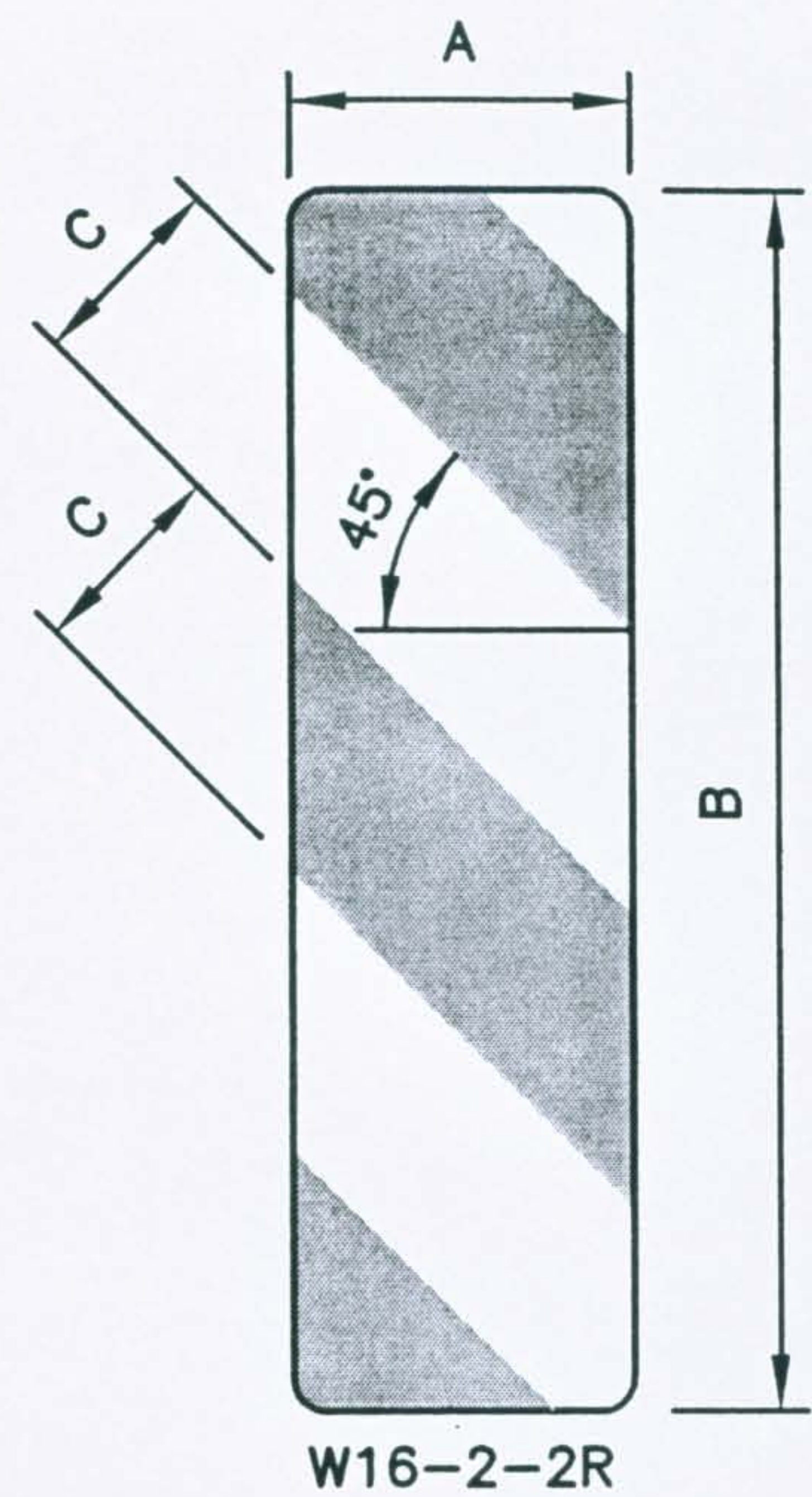
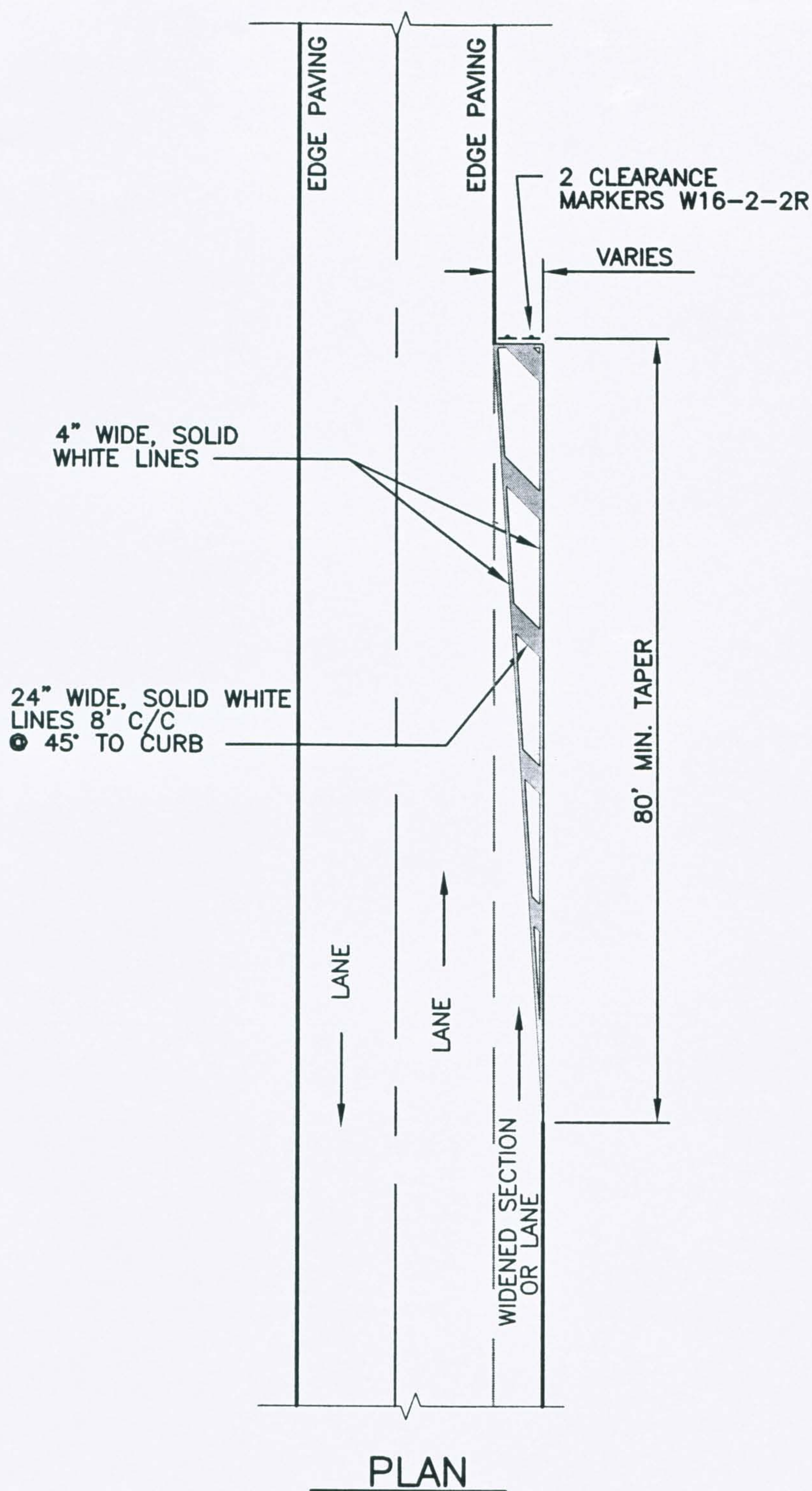
TYPICAL CURB CUT RAMP DIMENSIONAL ELEMENTS FOR TYPE I CURB CUT RAMPS

DEFINITIONS

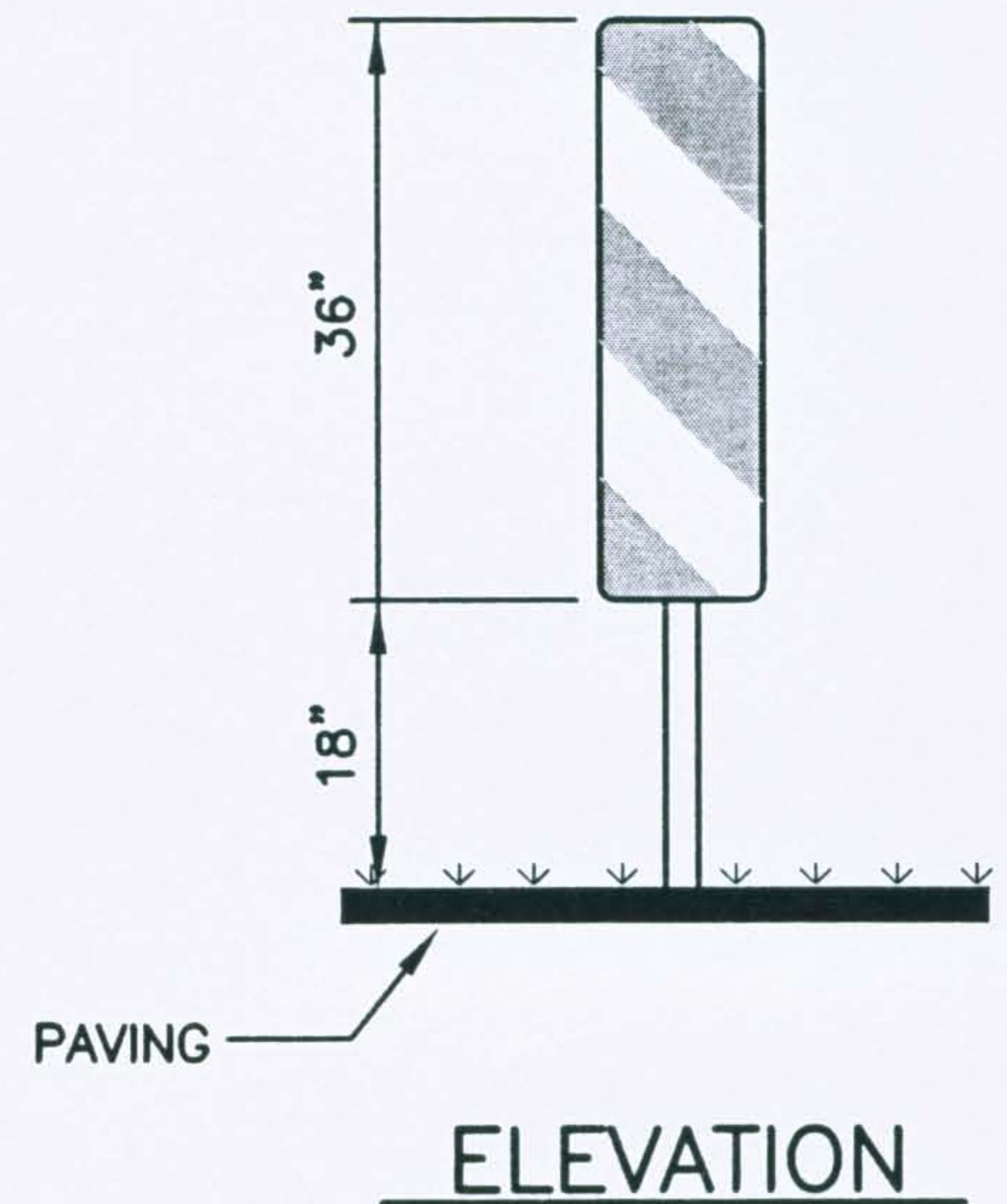
D = WIDTH OF CURB CUT RAMP.
E = WIDTH OF SIDEWALK SECTION.
L = LENGTH NEEDED TO MAINTAIN
12:1 SLOPE ALONG THE FACE
OF THE CURB.
S = SLOPE SIDE RAMP SLOPE.
S_R = FLARED SIDE RAMP SLOPE.

W = WIDTH OF LANDING AREA.
X = LENGTH NEEDED TO MAINTAIN
SELECTED SLOPE ALONG THE
FACE OF THE CURB.
Y = LENGTH OF CURB CUT RAMP.
Z = LENGTH NEEDED TO MAINTAIN
24:1 SLOPE ON CURB AND
SIDEWALK AREAS.

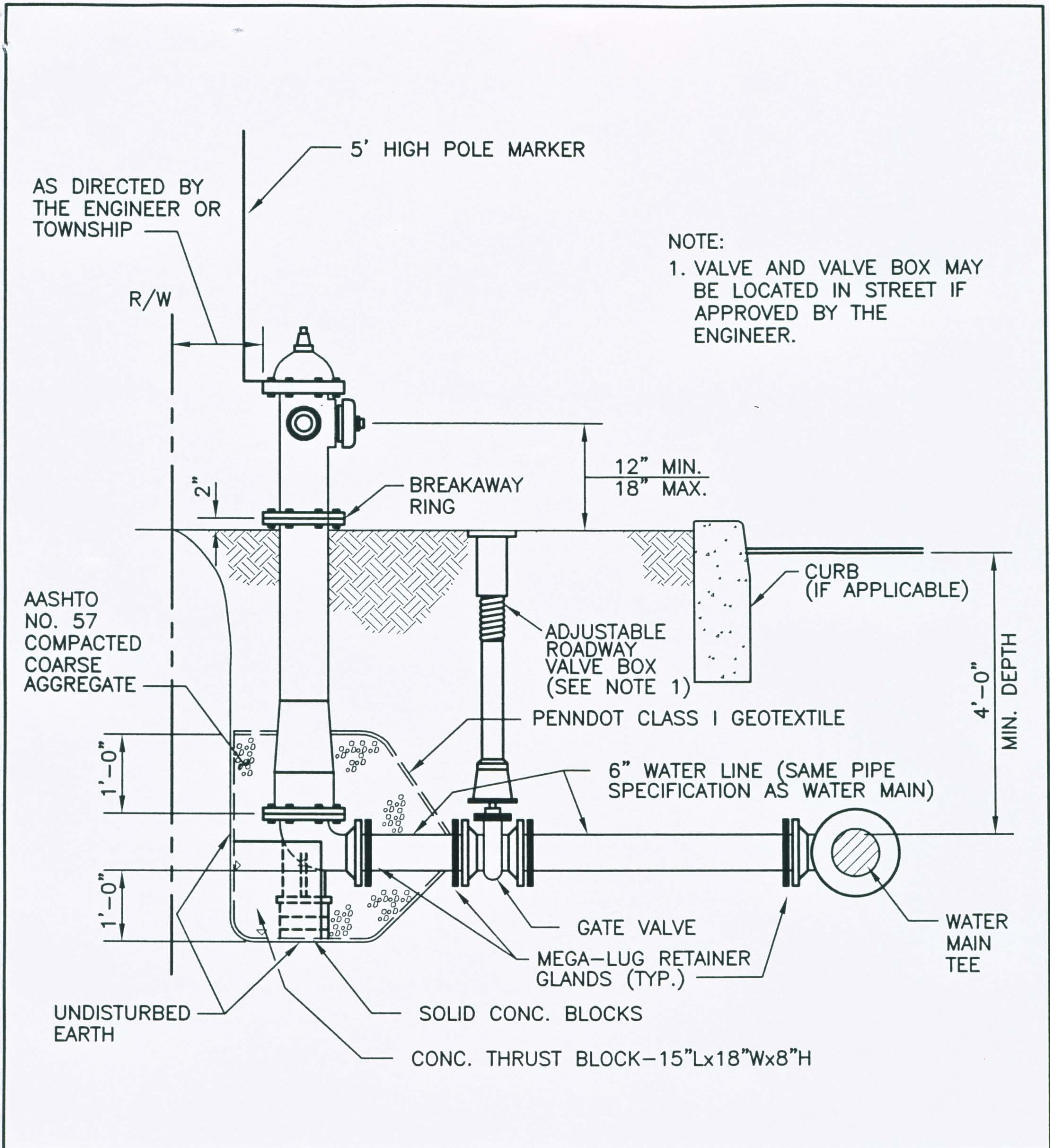
		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	CURB CUT RAMP DIMENSIONS	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 10A



SIGN SIZE	DIMENSIONS		
	A	B	C
18"x36"	18"	36"	4" TO 6 1/2"



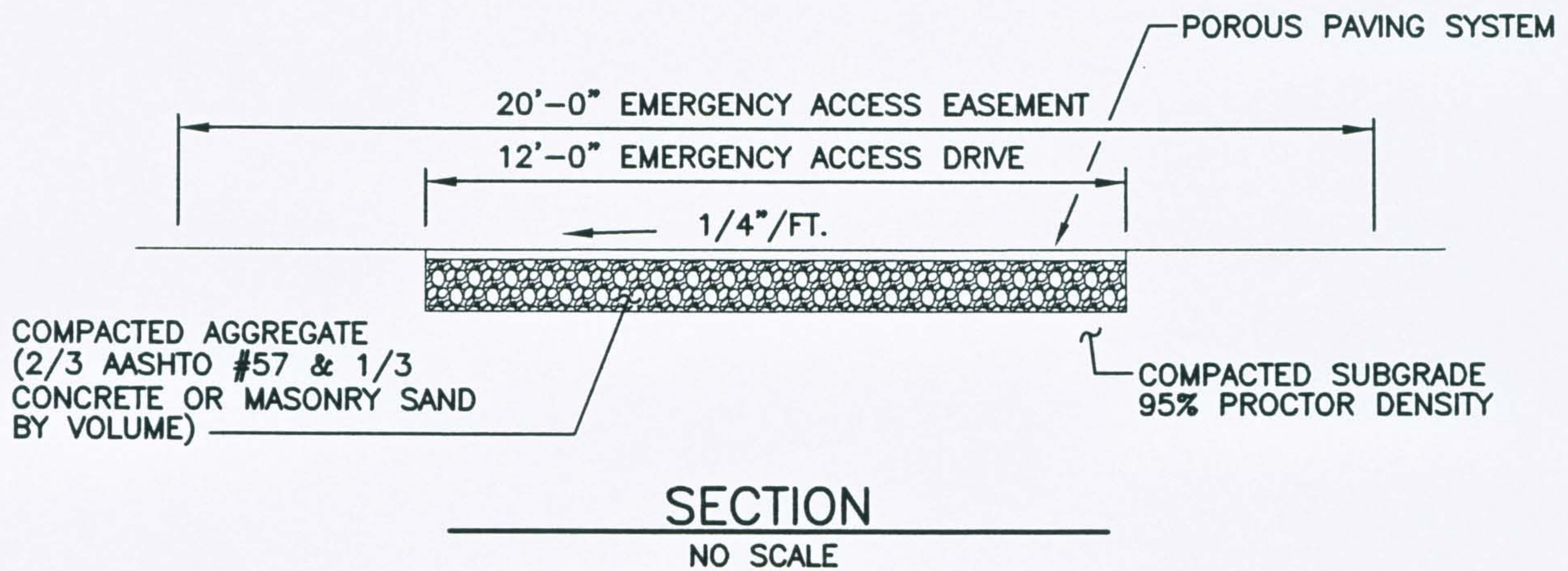
		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	END OF LANE MARKER	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 12



		<div>EAST COVENTRY TOWNSHIP</div> <div>STANDARD DETAIL</div>	<div><div>Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303</div></div>
1	2/13/04	<div>STANDARD FIRE HYDRANT SETTING DETAIL</div>	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 18

GENERAL NOTES:

1. TO BE UTILIZED FOR CROSS-COUNTRY RUNS
2. NO PLANTINGS OR OBSTRUCTIONS SHALL BE ALLOWED
WITHIN THE ACCESS EASEMENT OR STREET RIGHT-OF-WAY.
3. REFER TO TEXT FOR POROUS PAVING
SYSTEM SPECIFICATIONS.



		EAST COVENTRY TOWNSHIP STANDARD DETAIL	 Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303
1	2/13/04	EMERGENCY ACCESS DRIVES	DATE: SEPTEMBER 2002
REVISION	DATE		DETAIL: 19